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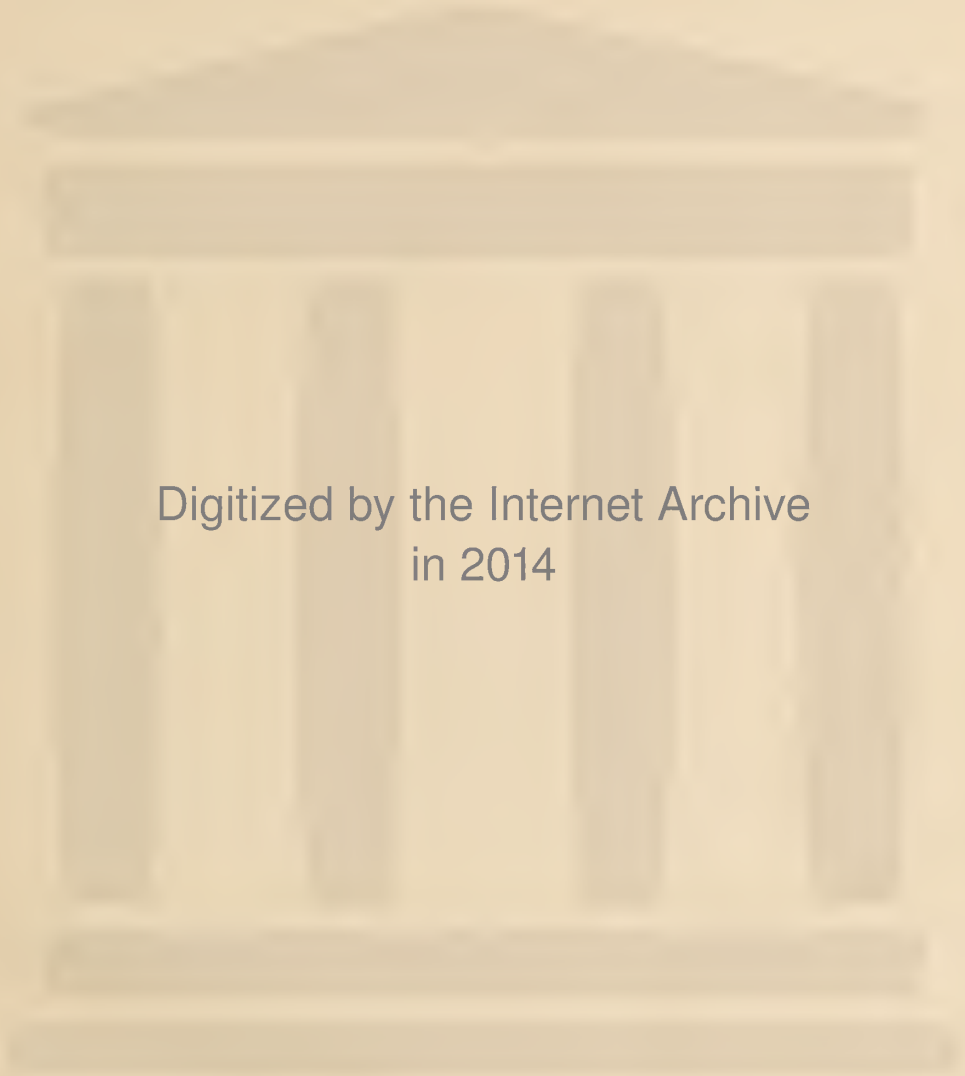
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Original Communications

MYOCARDIAL HYDROTHORAX.*

By ALEXANDER G. BROWN JR., A. B. M. D., Richmond, Va.

Formerly Professor of Practice of Medicine, University College of Medicine. Associate Professor of Medicine, Medical College of Virginia.

Hydrothorax complicating the terminal stage of cardiac disease is more frequent than practitioners usually observe. Often it undoubtedly exists without causing the patient much discomfort but I believe it rarely exists to any considerable degree without producing serious ill effects upon the already impaired myocardium. In other words without producing grave symptoms, which would disturb the patient, hydrothorax exists in such amounts as to further embarrass an impaired heart function. So, it is not alone important to discover and relieve those cases of hydrothorax that present the usual gross distressing symptoms but it is essentially important to search for hydrothorax in all cases of cardiac dilatation in order to salvage the threatened heart power resulting from compression. Too much delay is followed to wait until the patient has experienced the distressing shortness of breath which prevents sleep and which produces weariness. It is obtrusively tardy to permit the cardiopath to pass through nights of insomnia while dyspnea, orthopnea and even Cheyne-Stokes breathing almost drive the patient "crazy", and then to resort to the administration of morphine to deaden the respiratory center while compression of the lungs continues without the simple relief afforded by aspiration.

Let us consider some anatomical points which enter into the production of hydrothorax.

No doubt other factors, than the mechanical, enter into the production of effusion into pleural sacs in heart disease. Conditions of the blood, association of other diseased organs, bacterial and metabolic toxin-retentions, have decided value in explaining why hydrops appears in some cases and not in others. In former times the general explanation that venous stasis in cardiac dilatation produced transudation into the pleural sacs was accepted by practitioners. In more recent times, Steele and Stengel explained effusion in pleural sacs, by pressure of the dilated right heart upward upon the root of the right lung. It was thought that pressure upon the azygos major vein in its course over the root of the right lung by the right heart produced effusions and particularly the right hydrops. Baccelli thought is was produced by "dragging superior vena cava downward" in this way pulling it lightly against the root of the lung and thus retarding the return of venous blood.

Fetterolf and Landis* offer several objections to the azygos vein theory of cardiac hydrops, (1) that only two-thirds of the parietal membrane of the pleura is drained by the azygos veins, (2) that collateral branches of azygos veins are numerous enough to take care of any stasis produced by pressure upon the main body of the veins, (3) that the vena azygos minor emptying into the major vein before its union to vena cava, results in the same bilateral ef-

*Read at meeting of the Tri-State Medical Association of the Carolinas and Virginia, at Richmond, February 20, 1919.

*American Journal of the Medical Sciences, November 1909, page 712.

fect and so does not explain one side effusions (whether right or left).

These authors offer the following points to explain these effusions, giving anatomical facts for right and left sided effusions. The fluid, they state, comes not from parietal but from the visceral pleura and is produced by the pressure of the dilated heart upon, and thus partially obstructing the flow of venous blood through the *pulmonary* veins. They state, going into some detail, that both the bronchial arteries and pulmonary arteries, in addition to supplying the lungs, send radicles to the pleura and that the venous blood therefrom is returned through the pulmonary veins. Obstruction of the pulmonary veins, then, they observe, if of sufficient degree and duration, produces transudation of fluid from visceral layer of pleura into the sac, thus explaining right sided, left sided, and bilateral, hydrops according to the anatomical conditions prevailing.

Right sided effusions, they say, result from pressure produced by dilatation of the right auricle upon the pulmonary veins and upon the right end of the left auricle. This result was explained by a study of the anatomical relations, after hardening of the thoracic structures in positions.

Left sided effusions, they say, are brought about by the distention of the auricular appendix of left auricle upon and squeezing of the left upper pulmonary veins between the appendix and the branches. While the lower pulmonary veins would not be caught in this squeeze the dilatation of the left ventricle would involve compression of the vein between ventricle and branches.

The reason for greater frequency of right sided effusions is because dilatation of the right auricle is more frequent and more easy.

DIAGNOSIS.

Respiratory signs.—Dyspnea and cough, accompanied by evidences of cardiac dilatation, give reason for believing hydrothorax exists. This rule places the burden of disproving its existence upon the physician. This personal method of inquiry has enabled me to find and relieve hydrops when it was not previously suspected. Shortness of breath with cardiac dilatation may, of course, be due to pulmonary oedema alone. This is the usual accepted explanation. But, it should be remembered that frequently rales and moisture are found in the lungs in association with moderate or excessive hydrothorax. It is very easy also to fall into the error of assuming that pulmonary oedema is the sole cause of dyspnea when the patient presents a general external oedema in myocardial dilatation. In connection with this difficult breathing, a dry cough is often observed which a physical examination of the lungs does not sustain or explain. Several patients recently referred to me, or seen in consultation, have presented several irregular types of breathing which had so disturbed the patients that sleep and comfort were obtained only through administration of hypodermic injections of morphine. Of course, these patients were suffering from tardy diagnosis. Frequency and rhythm of respiration, showing tachypnea, orthopnea, bradypnea, apnea and dyspnea, were so disturbed as to make this the dominant group of symptoms demanding relief.

Physical Signs.—Routine inspection will disclose to the examiner obvious points about the chest which will enter into his final judgment but upon percussion and auscultation (aspiration being done when these seem to justify such simple procedure) accummulation of excessive fluid in pleural sac depends. Diagnosticians know that it is very difficult to demonstrate by physical signs upon the chest, less than 400 c.c. of fluid in the pleural sac (in the adult person). So, if one can satisfy the demands of laws of sound by demonstrating dullness, diminished vocal fremitus over these chests, he can feel sure that dyspnea has been caused by at least 400 c.c. of fluid. Dullness in hydrothorax changes; it is usually more marked on the right side but frequently bilateral; it changes easily with the change of position, although in some cases one should allow a short space of time to elapse before the second percussion.

These patients should be percussed in several positions. The dullness may be quite difficult to get in the absence of excessive fluid. The association of only slight change from normal of the auscultatory signs and only modified percussion note is altogether too frequently a cause for delay in aspiration of the pleural sac. In this way patients are permitted to continue disturbed breathing until discomfort is greater and also until cardiac power is, therefore, much impaired.

Auscultation of these patients shows diminished breath sounds and voice sounds over the areas of dullness. In these cases frequently, especially where renal complications exist, moist rales (evidence of pulmonary oedema) are observed over the upper borders of dullness. Bronchial breathing and increased pulmonary sounds are observed above the boundaries of the fluid. Hydrothorax is quite unlike pleuritic inflammatory exudates, particularly when it exists to the point of producing dyspnea. Inflammatory exudates are accompanied by more fixed boundaries of dullness, by greater absence of breath and voice sounds (thickened pleural walls), by evidence of frictional rubs, by pain, by one-sided signs only, by fever, by pyemic syndrome.

Aspiration, however, should be used more frequently; if done in every case of cardiac dyspnea, it would be none too often. This is so simple that one need not delay in its use. There are few, if any, of the possible errors resulting from aspiration as experienced in aspirating an inflamed pleural sac. External thoracic oedema, however, may demand a rather longer needle than usual in order to reach the fluid. If the examiner will have patient sit erect, by pressing in axillary line over the intercostal spaces (about 5 to 7) and entering just above the rib below, he may, without great pain, enter the pleural sac.

Cardiac (Renal and Hepatic) Signs.—The heart signs in chronic myocarditis, associated with hydrothorax, are those resulting from secondary dilatation of that organ. There is alteration of the intensity of heart sounds. Feeble ventricular contraction resulting from myocardical insufficiency produces diminished and a remote first sound; the second sound, owing to poor cardiovascular tone and to effusion in pericardial and pleural sacs, may be enfeebled. Murmurs may be heard, but the quality or timbre of them would indicate the want of cardiac strength rather than primary valvular defects (although these may have preceded the myocardial dilatation). These pure myocardial murmurs are weak in character and are variable. In these cases, there are evident signs of failing compensation, with diffuse cardiac impulse, displaced and weak apical beat, venous pulse, cyanosis, weak irregular pulse, and low blood-pressure. Chronic hyperaemic kidneys, with diminished secretion, and an enlarged and tender liver not infrequently accompany cardiac dilatation with hydrothorax.

Case 1.—J. D. M., white, male, age 57, newspaper editor.

Diagnosis.—Mitral stenosis and regurgitation; cardiac hypertrophy, secondary cardiac dilatation and chronic myocarditis.

In youth the patient had endocarditis and acute rheumatic arthritis. In early manhood possessed splendid muscular power, and in spite of organic mitral defect, became an athlete and gymnast. Had no illness until after 50 years of age. About four or five years prior to last illness had gastric ptosis and subacidity with "dyspeptic" symptoms; gastric lavage restored stomach to good function; heart gave very little trouble at this time. About two years ago cardiac symptoms came to the front. Had a number of attacks of acute dilatation of the heart with pulmonary oedema. During these attacks the heart action was often less than fifty systoles per minute; dyspnea marked; blood stained expectoration raised by forced paroxysmal cough; death seemed imminent; each attack was relieved by morphine, atropine, caffein medication. Had anginoid attacks also during this period. From these attacks he appeared much improved and until late in the winter of 1917, he was free from any serious inconveniences. At this time he began to suffer from dyspnoea. This continued with more or less relief for two months. In February 1918, the difficult breathing was relieved by aspiration. From that time until August 1918, I aspirated his chest in following manner:

No	Date	Side Aspirated	Amount of Fluid.
1	Feb. 11th,	Right	540 c.c.
2	Feb. 15th,	Left	540 c.c.
3	Feb. 25th,	Right	1080 c.c.
4	March 4th,	Left	960 c.c.
5	March 7th,	Right	1680 c.c.
6	March 12th,	Right	1530 c.c.
7	March 14th,	Left	900 c.c.
8	March 17th,	Right	1620 c.c.
9	March 19th,	Left	900 c.c.
10	March 21st,	Right	1200 c.c.
11	March 25th,	Right	1410 c.c.
12	March 27th,	Left	1200 c.c.
13	March 29th,	Right	1710 c.c.
14	March 30th,	Left	720 c.c.
15	April 1st,	Right	660 c.c.
16	April 3rd,	Left	1290 c.c.
17	April 5th,	Right	1140 c.c.
18	April 8th,	Left	1260 c.c.
19	April 10th,	Right	600 c.c.
20	April 12th,	Left	960 c.c.

21	April 13th,	Right	945 c.c.
22	April 17th,	Right	1230 c.c.
23	April 18th,	Left	1020 c.c.
24	April 21st,	Right	330 c.c.
25	April 24th,	Left	1170 c.c.
26	April 28th,	Right	1440 c.c.
27	April 29th,	Left	1200 c.c.
28	May 1st,	Right	1290 c.c.
29	May 3rd,	Left	1080 c.c.
30	May 6th,	Right	1170 c.c.
31	May 9th,	Left	660 c.c.
32	May 11th,	Right	540 c.c.
33	May 18th,	Right	750 c.c.
34	May 19th,	Left	1200 c.c.
35	May 20th,	Right	720 c.c.
36	May 21st,	Left	1140 c.c.
37	May 23rd,	Left & Right	900 c.c.
38	May 25th,	Left	1080 c.c.
39	May 26th,	Left	1140 c.c.
40	May 27th,	Right	1200 c.c.
41	May 29th,	Left	960 c.c.
42	May 30th,	Right	960 c.c.
43	May 31st,	Left	840 c.c.
44	June 1st,	Right	720 c.c.
45	June 2nd,	Left	750 c.c.
46	June 3rd,	Right	1110 c.c.
47	June 4th,	Left	1110 c.c.
48	June 6th	Right	750 c.c.
49	June 8th,	Left	690 c.c.
50	June 9th,	Right	540 c.c.
51	June 10th,	Left	300 c.c.
52	June 12th,	Right	660 c.c.
53	June 13th	Left	330 c.c.
54	June 14th,	Right	1020 c.c.
55	June 15th,	Left	1140 c.c.
56	June 16th,	Right	1140 c.c.
57	June 17th,	Left	690 c.c.
58	June 18th,	Right	900 c.c.
59	June 19th,	Left	840 c.c.
60	June 20th,	Right	840 c.c.
61	June 21st,	Left	1020 c.c.
62	June 22nd,	Right	960 c.c.
63	June 23rd,	Left	1020 c.c.
64	June 24th,	Right	1080 c.c.
65	June 25th,	Left	720 c.c.
66	June 26th,	Right	810 c.c.
67	June 27th,	Left	1080 c.c.
68	June 28th,	Right	990 c.c.
69	June 29th,	Left	660 c.c.
70	June 30th,	Right	810 c.c.
71	July 1st,	Right & Left	840 c.c.
72	July 3rd,	Left	750 c.c.
73	July 4th,	Right	750 c.c.
74	July 5th,	Left	900 c.c.
75	July 7th,	Left	660 c.c.
76	July 8th,	Right	1020 c.c.
77	July 9th,	Left	960 c.c.
78	July 10th	Right	1230 c.c.
79	July 11th,	Left	480 c.c.
80	July 12th,	Right	690 c.c.
81	July 13th,	Left	960 c.c.
82	July 14th,	Right	750 c.c.
83	July 15th,	Left	600 c.c.
84	July 17th,	Right	300 c.c.
85	July 18th,	Left	930 c.c.
86	July 19th,	Right	690 c.c.
87	July 20th,	Left	930 c.c.
88	July 21st,	Right	720 c.c.
89	July 22nd,	Left	900 c.c.
90	July 23rd,	Right	1230 c.c.
91	July 24th,	Left	1020 c.c.
92	July 25th,	Right	450 c.c.
93	July 26th,	Left	1020 c.c.
94	July 27th,	Right	960 c.c.
95	July 28th,	Left	840 c.c.
96	July 29th,	Right	810 c.c.
97	July 30th,	Left	810 c.c.
98	July 31st,	Right	780 c.c.
99	August 1st,	Left	630 c.c.
100	August 2nd,	Right	720 c.c.
		Total	91,875 c.c.

This is equivalent to 3062.5 ounces; 191.4 pints; 95.7 quarts, or 23.9 gallons.

Case 2.—N. T. N., white, male, age 58, farmer; September 28, 1914.

Diagnosis.—Chronic myocarditis with secondary dilatation; chronic passive congestion (hepatic and renal); hydrothorax (right).

No illness until July 10th, 1914, when after some unusual exertion, began to "feel badly" and "broke down." From that time to date of consultation, had suffered with attacks of shortness of breath and weakness.

Complaints when examined by me in my office were shortness of breath, difficulty in getting sleep; cough, "tightness of stomach." Physical findings showed terminal signs of cardiac decompensation. On October 1, aspiration of right pleural sac secured 960 c.c. of fluid. On October 3, (right side) withdrew 1080 c.c.. Left hospital on October 12.

Case 3.—J. M. P., white, male, age 51, farmer. Consultation March 14, 1918.

Diagnosis.—Chronic myocarditis with secondary dilatation, arterio-sclerosis, chronic hepatic and renal passive hyperaemia, hydrothorax. About six months prior to consulting me, patient began to have attacks of shortness of breath, difficulty in lying down and inability to sleep. Consulted a number of physicians without relief. Aspirated right side March 23 and withdrew 360 c.c., March 28, 930 c.c., and March 30, 320 c.c. April 1, I aspirated right and left pleural sacs without getting fluid.

Case 4.—H. S. D., white, male, age 49, salesman, April 24, 1918.

Diagnosis.—Myocarditis and dilatation, hydrothorax.

In June 1917, patient had appendicitis, with drainage operation, stormy convalescence. In January 1918 patient had an attack of influenza. During March, while traveling, began to have attacks of shortness of breath and cough. On April 24, consulted me complaining of "asthmatic breathing", constant dry

cough and indigestion. Examination showed cardiac decompensation and hydrothorax on left side. Aspirated April 27 and withdrew 360 c.c. of fluid; two days later aspirations were done but record of amounts was not kept.

Case 5.—W. H. S., white, male, age 76, consultation June 3, 1918.

Diagnosis.—Chronic myocarditis with secondary dilatation, hepatic and renal passive hyperaemia, hydrothorax.

Patient had an attack of influenza lasting for some weeks. This infection of the bronchi was stubborn and caused decided impairment of strength of patient. As febrile stage subsided patient developed bad heart action; intermittent and irregular pulse, the myocardium dilated. Shortness of breath and general oedema appeared. Hydrothorax appeared quickly but general weakness of patient influenced delay in aspiration. August 15, aspiration was done and only 180 c.c. were obtained. The patient was so excited that operation was interrupted. On August 29, aspiration of left side obtained 1920 c.c. of fluid.

1135 *West Franklin Street.*

THE PRE-OPERATIVE AND POST-OPERATIVE TREATMENT OF NEOPLASMS WITH RADIUM*

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It is the purpose of this paper to discuss briefly the use of radium in connection with surgery. The scope of this discussion, however, will be confined to the pre-operative use of radium in fibroids of the uterus and cancer of the breast, and the post-operative use of radium in cancer.

It may be of interest to you for us to state a few facts conecrning radio activity. Radium in equilibrium emits three rays, namely, alpha, beta and gamma. The alpha rays are positively charged helium atoms, shot out with a velocity of about 12,000 miles per second. These rays have little power of penetration and can be screened with two or three thicknesses of ordinary paper. The beta rays are negative electrons of the same type as the cathode rays, and they have a penetrating power of about 100 times the alpha rays and a velocity about the same as light. They attach healthy tissues as readily as diseased and it is the beta rays that give us our radium burns. Beta rays, however, are very efficacious in destroying neoplasms, and in some instances we use them when we apply our radium needles directly into the substance of large tumors. The gamma rays are very similar to X-ray, but they are more penetrating than the hardest ray produced from the Coolidge tube. This ray seems to single out diseased tissue, although healthy tissue will suffer if the time exposure is too long and if the screening is not properly applied, and it is the gamma ray that is used in the treatment of neoplasms.

In treating with radium, several factors have to be constantly in our minds. First, are we protecting our patient by properly placed screens and filters? Second, is the distance from the radium to the target too great? Third, what is the nature of the growth that we are radiating?

The gamma ray is the one on which we rely for therapeutic effect, and to get this ray in pure form it is necessary to filter through gold, copper, aluminum, lead, or some of the other heavy metals. In this way we do away with the alpha and beta rays. In the passage through these filters sometimes secondary rays are formed which burn just as severely as the beta ray, but these rays may be eliminated by protecting our filters of heavy metal with a sheet of rubber. When radium is applied in the region of the eye, or rectum, and other delicate places, it is well not only to filter our rays but to protect these delicate parts with screens, which are usually made from the same material from which the filters are made, and these screens are in turn protected from forming secondary rays by the use of rubber covering.

It is never well to apply radium directly against the tissue unless the tissue be a mucous membrane because there is always a distinct danger, no matter how well we apply our filters, of burns from the secondary rays. We should, however, place our radium as close to the tissue as we can, for we know that the amount of radiation varies approximately as a square of the distance from the radium to the target. To illustrate how much radiation we lose by placing the radium at different distances from the target, let us cite a few figures. The patient gets approximately 600 times as much radium at a distance of one millimeter as he would if the radium was placed one-inch from the target. He will get four times as much radium at one inch as he will at two inches, etc. You can readily see that distance

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is quite a factor in estimating the amount of radiation the patient receives.

The character of the neoplasm tells us much as to what our results will be. Undoubtedly, tumors arising from the mesoderm are very sensitive to the gamma ray, while epithelial tumors are, perhaps, more resistent to this ray. If the tumor contains calcium, as some of our bony tumors do, the prognosis is not so good. Some sarcomata, the round and spindle cell type, do exceptionally well under the radium treatment. Epitheliomas of the basal cell type react to radium treatment, but the squamous cell type of epithelioma is somewhat resistent to the rays. Practically all of the gland cell cancers respond favorably to radium therapeutics.

Radium therapy is particularly valuable in fibroids of the uterus. Especially is this true in the small submucous and in the intramural growths occurring in young women where hysterectomy or even resection of the uterus is a serious disadvantage. We have been able by the use of radium to relieve quite a number of cases of metrorrhagia due to small fibroids, and at the same time to preserve a functioning organ. Radio activity is also of inestimable value as a preliminary treatment to operation in old or large fibroid growths of the uterus where the constant loss of blood has reduced the hemoglobin to a dangerous point. We have in mind a woman whom we saw a year ago with a moderately large bleeding fibroid which had existed for a number of years and whose hemoglobin was down to seventeen per cent. She was given 800 milligram hours of radium over a period of four weeks. The metrorrhagia has been relieved, her hemoglobin steadily has increased until it is now approximately sixty-five per cent. This case is infinitely improved, but we believe because of the size of the growth that a hysterectomy should now be done.

In addition to the control of hemorrhage we find that the application of radium has a very beneficial effect on the severe leukorrhea that is associated so frequently with bleeding fibroids. After the radiation the growth may or may not diminish in size, but there is invariably a marked improvement in the general condition of the pateint. This improvement, we think, is due to the clearing up of the endometritis and to the lessening of absorption incident to the removal of the infection.

While we are on the subject of the treatment of metrorrhagia associated with fibroids we would like to digress a moment in order to mention another group of cases in which we have found radium therapy to be specific. We refer to the cases of metrorrhagia where there is no enlargement of the uterus, and where we are unable to explain the cause, and where, in spite of curettement and continued treatment, our patients return again and again, and where, in the end, as you all know, many of our patients are only relieved by a hysterectomy. The judicious application of radium in these cases is of greatest value.

In cancer of the breast a large number of our metastases take place in the skin, and it is not uncommon to find just beneath the surface of the skin small nodules of carcinomatous cells. Halstead was one of the first to point this fact out, and because of the widespread skin metastases associated with carcinoma of the breast, he advocated a most extensive operation which required a skin-graft to accelerate the healing. The tendency nowadays is to get away from extensive skin-grafting, but, in our opinion, such a procedure is associated with considerable danger unless we can eradicate the cancer from our field of operation. A few years ago attention was called to the fact that the use of X-ray in cancer of the breast, both from a pre-operative and from a post-operative standpoint, was of distinct advantage in the treatment of this condition. For a number of years we have been recommending the X-ray for the post-operative treatment of cancer of the breast, but in the past year we have substituted radium therapy for X-ray, and it is our plan to radiate the breast for 1000 to 2000 milligram hours before operation and from 2500 to 4000 after operation. Of course, it is impossible to show statistics of the value of this treatment, but we feel that we should lower the number of recurrences.

In tumors of the mouth, and especially carcinoma, we follow the line of treatment as outlined by New, of Rochester, Minnesota. The tumor is first burnt off with a cautery (Percy or soldering iron) and then radiated for 1000 to 4000 milligram hours, spaced over a period of one to two years. If there be metastasis to the cervical glands we apply radium to the neck until the glands disappear or get beyond our control.

In inoperable carcinoma of the cervix we burn as much of the tissue as is possible with a Percy cautery and later we apply radium. In two cases so treated in the past year there has been such an improvement, both in the general condition and in the character of the growth, that we now have hopes that both patients may ultimately recover.

The use of radium in cancer has reached the stage where not only advanced inoperable cases are made more comfortable during their last days, but also those cases that are on the border-line of operability are operated upon successfully. "Much work has yet to be done in perfecting and standardizing the technique of radium therapy, but data is rapidly accumulating concerning the types of tumor most susceptible to the action of radium; the best method of approach and application and accomplishment of the full treatment without distress or harm to the patient." We have been much encouraged during the past two years by the results we have obtained with radium, and we have hopes that in the future when radium therapy is put on as sound a basis as X-ray therapy we shall get even better results than we have in the past.

In conclusion, we like to emphasize the importance of radium as an adjunct to surgery. We do not believe that it will ever do as much for certain growths as surgery, but, at the same time, as a preliminary and as a follow-up treatment much can be expected from it.

QUININE.*

W. T. PARROTT, M. D., Kinston, N. C.

Formerly the U. S. Pharmacopoeia required that quinine be obtained from Cinchona Succirubra and Cinchona Calisaya, or allied species of the cinchona tree yielding five per cent. total alkaloids and two and one-half per cent. quinine. Now any species of the cinchona tree yielding these percentages are recognized, and very justly so. In 1865 the price of quinine arose to thirty dollars an ounce. This was because of the fact that the lumber interests were very greatly slaughtering the cinchona tree. The rapid destruction of the tree seemed imminent and this wonderful drug would be lost to the world. The American Government, in conjunction with the other great powers, appointed a commission to investigate the proposition and devolve some method of saving the tree. Representatives of these various governments visited Brazil and secured speciments and began transplanting the tree in various parts of the world. Those in Sicily did best and are now yielding a much higher percentage of quinine and total alkaloids than those in its indigenous state. Quine is decidely the most important of its eighteen sister alkaloids and will do everything that its nearest rival can do and more.

In a special study of the drug, my investigation corroborates the findings of various other investigators, although I have been able to work out two very positive phases of cinchonism and also some valuable facts regarding its absorption. These will be dwelt on later.

Micro-organism—The paramecium, protozoa and ciliated organisms are easily killed. It is said that the spirochaetes of relapsing fever are also affected by it.

Enzymes—Ptyalin is increased; pepsin is decreased.

Leucocytes—One part of quinine to 4,000 parts of blood, kills these.

Alimentary Tract—Stomacic juices stimulated.

Absorption—Almost entirely by the stomach if this be an acid medium. One out of every six people will absorb it by vigorous rubbing through the skin, and, in fact, the absorption by the skin will take place in as many people as will in muscular injection.

Kidneys—Large doses irritate and quinine is quite capable of producing a temporary albuminuria.

Circulation—Increased.

Blood—Coagulability is decreased.

Cerebrum—Quinine acts just as acetanalid.

Medulla—Affected only in poisoning; this paralyzes the respiratory center.

Spinal Cord—Reflexes exaggerated.

Peripheral Nerves—Slow and prolonged anaesthesia after injection.

Eye—Color blindness and dilated pupils.

Ear—Deafness and ringing in the ears, although I have never known permanent deafness resulting from even the largest doses of quinine, and I am inclined to think that any case of deafness following the administration of quinine is due to some other disease. I admit this view is not in keeping with that of

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many other men. Indeed I regard a so-called quinine deafness as myth, certainly if anything like reasonable doses have been given.

Muscle—Striped and cardiac muscle stimulated.

Elimination—Quinine, like all the alkaloids, is eliminated very quickly after gaining entrance in the system; indeed, I have found it eliminated in fifteen minutes. The test which I employ for its determination is as follows: One drop of T. S. of bromine added to four cubic centimeters, followed by a few drops of ammonia water, will give an emerald green. I think this test should be employed in every important case where quinine is given, because the actual finding of the excreted quinine is the only safe criterion of its having been absorbed. If large quantities of fluids have been ingested then the alkaloid may be too highly diluted to give test, a few drops of Na OH should be added to precipitate the alkaloid. The supernatant liquid partly removed. Then a few drops of acetic acid to bring the alkaloid back in solution when the test may then be made satisfactorily. The ringing of the ears is the first phase of cinchonism, and I have very definitely proven there are two phases: First phase appears by irritant action of the quinine on the stomach. This effect of quinine is quite similar to the irritant effect of ipecac except that it does not always go on to the nausea stage. The second phase of cinchonism coming six to eight hours after the administration of quinine, is likened to the effect of an alcoholic morning headache, and is the phase in which absorption occurs. This latter phase cannot occur unless the quinine has been actually absorbed. I am more than certain that the malarial organism is only affected in this second phase of cinchonism and that the quinine in killing the malarial plasmodia causes the germ itself to set up a toxemia which is antagonistic to the germ. In support of this latter theory, I wish to call your attention to the fact that the old school of medicine always endeavored to get their malarial patients through the twenty-one days, when they noted that the temperature fell, the crisis came and the patient began to improve. This could be no more than an autovaccination.

Tertian, quartan, quotidian and aestivo-autumnal and all forms of malaria yield to quinine.

Administration—Quinine should never be given orally unless some provision is made for it to reach the stomach in an acid condition. By an inunction with lanoline one person out of every six will absorb it. Intramuscularly, I do not like it, because of the fact that abscesses are so prone to follow and, indeed, I have foud quinine localized at the seat of injection after many years. The fact is, I would try every other method of getting it absorbed before I would use this one. Of transfusion through a vein, I am an ardent advocate for severe and selected cases.

Value of Quinine—It is cheaper and more efficacious than drainage. I would not throw cold water on swamp drainage, because drainage is a good, sanitary measure for other things, but as a malarial prophylactic it is expensive and entirely unnecessary. Every medical man here knows that malaria cannot be transmitted by the Anopheles mosquito unless this mosquito has previously stung some one suffering with malaria. Therefore, it is impossible for the mosquito to carry malaria unless the individual whom he has previously stung has malaria. Furthermore, we know that quinine will absolutely sterilize the blood of one bitten by the mosquito. Three and one-half million people in America are absolutely inefficient because of malaria. Quinine is an absolute specific in malaria and will yield ninety-eight per cent. profit if given to the public. The savings from the public administration of quinine in putting back to work and making producers of those affected with malaria would, in ten years, pay for the Panama Canal, the cost of which was three and one-half million dollars, providing the time is not worth more than one dollar per day per individual. You see, figured on this basis, that these people can be cured with quinine and will certainly give back in clear profit three and one-half million dollars every year. Quinine, used properly, will save to the people of this country enough money to build a railroad across Central America every year, three highways across North Carolina every year. It is worth one-fifth the cotton crop of the entire South; it is worth all the gold produced in North Carolina yearly. The entire corn crop of the Southern states can be bought with the money saved by the use of quinine. I think H. R. Carter is responsible for the statement that one dollar invested in quinine will

give a greater return than two hundred and fifty dollars to five hundred dollars in the treatment of any other disease.

Now as to the length of treatment. Most cases of malaria are inadequately treated. No case can be thoroughly cured under six weeks and any doctor who turns his patient loose and does not enjoin the use of quinine for fully six weeks after the acute symptoms have subsided, is leaving his patient as a malarial carrier. His blood contains the plasmodia and he is quite capable of infecting others.

As to swamp drainage, I would not go on record as being opposed to that. Napoleon, genius that he was, said he preferred to run his enemies in a swampy district of Holland and let the malarial organism kill them instead of bullets. If, however, quinine had been properly used, the danger of malaria in the swamp would have been absolutely obliterated.

PREGNANCY FOLLOWING HYSTERECTOMY.*

By WILLIAM F. GRIGG, M. D., Richmond, Va.

I report this case because it is a very unusual one. I did not attend the woman during her confinement, but I have her affidavit and that of the registered midwife who delivered her, and I have no grounds for doubt other than it seems almost impossible. The child has features very much like its parents. I have been unable to find anything in literature to support me in reporting this case.

Case No. 105. Female referred to me September 1917, with a history of bleeding between her periods. On examination I found an enlarged boggy uterus with possible uterine fibroid and advised operation which was done September 21, 1917.

Operation consisted of a median incision through which the uterus and both tubes were removed. Multiple fibroids of small size were found in body of uterus. All of the cervix and both ovaries (which were in good condition) were left in place. The patient made an uneventful recovery and was out of the hospital in thirteen days.

I kept her under observation for six months, after which time I lost sight of her until about February 20, 1919, when I met her in the market and she told me she had a baby born to her December 30, 1918. I told her it was impossible and went to her home the next day to see the baby. She swore it was her child. I then went to see the midwife who said the case was as near a normal delivery as she had ever seen. I then told her that the mother had no womb. She said she did not know about that, but one thing she did know and that was that she delivered her of the child, and was with her all during her labor.

10 *West Grace Street.*

*Read at a meeting of the Richmond Academy of Medicine and Surgery, March 11, 1919.

FOREIGN BODY, SHARPNEL IN RIGHT ANTRUM, REMOVED.*

By JOSEPH B. GREEN, M. D., U. S. N. R. F.,
U. S Naval Hospital, Norfolk, Va.

The following case would seem of sufficient interest to merit its reporting. Patient X., age 20, private in the United States Marine Corps, enlisted at New York in January, 1918, and was sent to Paris Island, S. C., for training. Here his markmanship was high, and he qualified as a sharp shooter or sniper. He landed in France in May (1918), and was soon

sent to the front. It was at midnight, on June 25, in the battle of Belleau Woods, now named for the American Marines, that our patient received his wound from a high explosive

*Read at meeting of the Southern Section of the American Laryngological, Rhinological and Otological Association, in Richmond, Va., March 1, 1919.

shell. Three marines occupied a shallow dug-out, when the shell exploded over them, killing one and seriously wounding the other two. Patient was transferred to Base Hospital No.

6, where he was unconscious until July 3. While in this hospital the patient had his left eye enucleated, resulting from shell injury. He left France October 27, arriving at the Norfolk Naval Hospital November 9, 1918.

Examination showed total loss of left eye with a linear discharging sinus of left cheek over the malar bone three-quarters of an inch in length. There was noted a decided deviation of the nasal septum to the right. With a probe there was felt, after cocainization, a hard, unyielding substance in the region of the attachment of the right middle turbinate. There was very slight discharge from the right nostril. Transillumination showed a slight difference in the two antra, the right slightly darker than the left. The X-ray examination showed a foreign body lying in the upper back part of the right antrum just under the floor of the orbit. This was quite surprising, for we had expected the fragment to be near the sinus on the left cheek, the point of entrance. There was another surprise in store for us, and the patient as well, when we discovered the shadow of a bullet in patient's neck, slightly to the left side. The point of entrance was directly over the tip of the mastoid. The only symptom complained of was slight pain in the region of the left orbit. The patient's general condition was good and he was up and about enjoying his rest in the hospital. There was no fever.

On December 12, the operation for removal of the foreign body was performed under ether anaesthesia, supplemented by injection of two per cent. procaine with a few drops of adrenalin at the point of incision. The cheek was well retracted and a transverse incision was made through the mucous membrane over the right antrum (Caldwell-Luc), avoiding carefully the roots of the teeth. The bone was removed with a mastoid chisel, and the antrum was entered. The hemorrhage was slight, due to the injection of the procaine-adrenalin solution. The foreign body was soon located largely in the antrum, though the end protruded into the right nasal cavity. It was so firmly embedded that its removal required the use of a curette to facilitate its extraction. Its weight was 17 grams, slightly more than a half ounce.

The mucous membrane of the antrum seemed surprisingly healthy. The cavity was packed with iodoform gauze and one suture was placed in the wound. As the bullet in the neck was embedded in the deep muscles and was giving

no symptoms, it was not deemed advisable to remove it. Two days later the packing was removed. There was only a slight post-operative rise of temperature. The recovery was uneventful and the patient was soon discharged from the hospital. The point of special interest is the fact that such a large fragment of shell could pass through the bony structure of the face and remain in the antrum so long without causing symptoms by its presence. The only feature of the operation worthy of note was the distinct advantage in the lessening of troublesome bleeding by the use of local anaesthesia in conjunction with general anaesthesia.

Home address—Asheville, N. C.

Analyses, Selections, Etc.

The Management of Acute and Chronic Infections of the Airways.

At the meeting of the Southern Section of the American Laryngological, Rhinological and Otological Association, in Richmond, March 1, Dr. Irving Wilson Voorhees, of New York City, stated that he had prepared no set paper, but had jotted down a few ideas on a very large subject which if gone into exhaustively might fill several sizable volumes. He merely wished to call attention to some salient facts in the treatment of respiratory infections which had either been overlooked or had not been sufficiently emphasized.

It is going to be recognized more and more that the majority of acute infectious diseases find a site of origin somewhere along the tortuous path of the airways. Recent studies of carriers have shown that a great number of people in a fair state of health are harboring in their systems enormous numbers of pathogenic bacteria which are capable of starting a new and severe infection when transferred through the ordinary contacts of social customs to new and favorable soil. The diphtheria bacillus, the bacillus typhosus, the pneumococcus, streptococcus, meningococcus and many others may exist in the nose and throat without giving any signs of their presence. Physicians and nurses in the wards of hospitals frequently carry all of these bacteria at various times in their airways but go about their work unconscious of any danger to themselves or their charges. Such are for the most part temporary carriers and, once they are away from the contagious atmosphere or source of supply for a few days, the bacteria are no longer to be found. An acute carrier is one who has recovered from an attack of a disease and who through convalescence and for a few days thereafter shows the organisms to be still present. If the bacteria persist in the cultures taken for some months or years, the infected person is said to be a chronic carrier. The study of carriers in this war period has shed new light on the spread of communicable disease and has emphasized the necessity of taking at least two negative cultures from all cases before discharging them from quarantine.

The difficulty of sterilizing any mucous membrane tract after infection is obvious but it must be done if public health is to be safeguarded, and the newer science of medicine must see that it is done. This is especially true regarding the so-called "missed" case where the patient suffers only a slight indisposition and no one thinks it worth while to examine the discharges bacteriologically.

The experience of Great Britian in the outbreak of cerebro-spinal meningitis in the camps has been of great help in working out the problem of the carrier in this country. The findings of the British Commission which studied this matter exhaustively have been of aid to us in working out our own infectious epidemics. It is too extensive to be more than mentioned, but will well repay a careful reading. This commission came to the conclusion that every case of cerebro-spinal fever was an instance of an overlooked carrier. When a man reported sick, cultures from the nasopharynx enabled one to make a positive diagnosis within forty-eight hours. The British tried a number of antiseptics in their efforts to sterilize the respiratory mucous membrane, but finally chose chloramine solution as the most effective and least injurious to normal body cells. They adapted an apparatus originally designed for room disinfection by the spraying of impregnated steam, to the atomization of solutions of dichloramine. The Rockefeller Institute in New York rigged up such an affair and had very good results with it, but it is heavy, cumbersome, heats up the room 20 degrees above what is desirable, and cannot be turned on and shut off promptly. Such a massive contrivance is entirely unneces-

sary as the ordinary power spray of the rhinologist's office is quite as effective. The patient may lie on his back with the head well extended over the edge of the table when any mixture may be sprayed into the naso-pharynx or may be dropped in with a very thin pipette.

In reality the exanthemata are all examples of acute local infections of the nose and throat which quickly become generalized and offer the well known signs which lead to a diagnosis of constitutional disorder. Of these scarlet fever is the type, and it would seem that very much could be done to shorten the course of this infection and prevent imminent and dangerous complications by cutting off the supply of the infective agent in the nose and throat. The respiratory tract has always been gravely concerned in such diseases as measles, diphtheria, whooping cough and parotitis but it would seem that no concerted effort has been made to attack these from the nose and throat viewpoint. Tuberculosis is doubtless in many instances an inhaled infection, although primary tuberculosis of the upper air tract is looked upon as a rarity. The bacillus of leprosy has frequently been found in the nasal secretions and its incidence in the upper air tract has been the cause of heated discussion in various learned societies from time to time.

We need to know a great deal more than we do at present about the causes of diminished resistance to disease. Exposure to cold, wet and fatigue have been often set down as predisposing causes, but no one has explained the mechanism of their working. Acidosis has been receiving some attention of late as favoring the action of bacteria in the system, and it has been rather a constant factor in the influenza epidemic,—so much so that the use of acid fruits to form tartrates, malates, etc., has been strongly indicated and the exhibition of such drugs as sodium citrate in large doses has had enthusiastic supporters.

The principles of treatment in every respiratory infection are as follows: (1) A culture should be taken on nutrient or blood agar. (2) The nose should be opened by means of astringents. (3) From a pint to a quart of irrigating fluid (normal saline) should be applied at stated intervals. (4) A sufficient quantity of a non-irritating antiseptic should be dropped or sprayed on the diseased surface to kill as many of the specific bacteria as possible. (5) This procedure should be repeated twice a day or every two hours if the need be urgent.

These principles vary in detail only according as one is working with the nose, pharynx, larynx, trachea or bronchi. As to the culture, one must be sure that no antiseptic has been applied for at least three hours preceding the taking. Irrigation is best carried out by a process of combined irrigation and suction as exemplified in the Nichols nasal syphon. This the patient can learn to use at home and it seems safer with respect to the ears than any other method.

The successful use of respiratory antiseptics is based upon the following protocols: (1) The antiseptic must be sufficiently lethal for the bacteria with which we have to deal in a given instance. (2) The antiseptic must not injure the mucous membrane either through its chemical or mechanical action. (3) There must be thorough contact with all infected areas, and care must be taken to see that the antiseptic action be not vitiated through dilution by the normal secretions. (4) Concentration of the antiseptic must be sufficient but not excessive in amount. (5) All conditions necessary to thorough bactericidal effect must be maintained for a sufficient length of time. Some commonly used antiseptics are argyrol five to ten per cent; silvol five per cent; silver nitrate two per cent in a DeVilbiss atomizer No. 52, fitted with a hard rubber bottle stem. Menthol in oil five to twenty-five per cent, is excellent in acute laryngitis, if dropped (one-half to one c.c.) directly into the larynx. For the larynx, trachea and bronchi dichloramine-T in chlorcosane oil is a very effective germicide. In the nose it cannot be used in acute cases because of the great reaction it sometimes engenders. It can be used with impunity in chronic nasal infection (atrophic rhinitis). The details of its preparation cannot be entered into here, but it must be fresh every day, made up without heat, and neutral to litmus paper. If acid, it will do more harm than good.

In chronic bronchitis the bronchoscope is of great aid in making applications and in following up results. No case of chronic bronchitis should be undertaken without a good X-ray picture of the thorax, for one may by

such means find that a foreign body is the cause of all the symptoms that have so long troubled the patient. It almost goes without saying that cultures from the bronchial mucous membrane taken through the bronchoscope are a *sine qua non*. From such cultures autogenous vaccines may be made which in many cases are a very great adjuvant to the local antisepsis. Every chronic case is an individual problem and it may require a great deal of study in various directions before an entirely satisfactory line of treatment can be helpfully pursued. In any case it is going to be recognized more and more that any attempt at non-surgical treatment of the respiratory tract must be associated with an intensive study of the bacteriology of the airways. We must know our enemy intimately before we can hope to overcome the defenses which he sets up against our efforts to dislodge and destroy him. Every rhinologist should associate himself intimately with a bacteriologist. —(*Author's Abstract.*)

Pulmonary Conditions Simulating Tuberculosis.

Elliott of Toronto, in his experience as visiting physician to a number of military hospitals, was called upon continually to make diagnoses upon large numbers of men with diseases of the chest. He found very many soldiers who had been returned from overseas because of the diagnosis, "tuberculosis suspect," whom he found to be really suffering from non-tuberculous pulmonary disease. There is no doubt, he thinks, that 60 to 80 per cent of the cases returned to Canada from overseas as tuberculous suspects must be classified as not suffering from tuberculosis. He classifies and gives differential diagnostic points on a number of conditions that may simulate the symptoms and signs of pulmonary tuberculosis. These conditions fall under the following heads: intranasal complications, dental complications, diseases of the bronchial tree, pulmonary diseases, pulmonary abscess, diseases of the pleura, empyema, gunshot wounds of the chest, other pulmonary conditions, conditions secondary to heart and circulation, Graves' disease and gas poisoning. He also has a few words to say about the milingerer. (*American Review of Tuberculousis*, 1919. Vol. 2, No. 11.)

Correspondence.

Medical Society of Virginia.

To the Members:

It has been sometime since I have had the pleasure of communicating with you, with reference to the affairs of the Society.

Owing to the unrest and interruptions incident to the war, to the many changes that have occurred during the past few years, and the fact that the Executive Council deemed it wise and for the best interests of the Society not to hold the annual meeting of the Society October 22-26, 1918, there has been an interregnum, and possibly there has been less interest in Society matters during this period, which could hardly have been avoided, under the circumstances.

With the return of the profession to civil life, and the taking up of their duties again, as active practitioners, we believe that the interest in our organization will revive, and that we will be able to put our Society on a stronger and firmer basis than formerly. It is to this end that we invoke your kind consideration and co-operation.

The Executive Council, which represents and acts for the Society when it is not in session (the House of Delegates having not yet organized), has not been altogether idle. It is planning for better things for the future, which it will be prepared to present for your consideration at our next annual meeting, in October, 1919.

We especially hope to present a feasible plan for you to adopt, own, and publish a journal, devoted to the interests of the Society, and for the benefit of its members, which will be sent to each member, monthly.

It seems to me this should stimulate us to put forth our best efforts to bring this about, for I can conceive of nothing that will coalesce and bind the profession together, as controlling its own journal. It will be a monthly means of communication, and it is to be hoped that each member will regard it as *his* journal, for he will be a partner in this enterprise, for which he will be responsible. We hope we will be able to demonstrate to you that it is a good business enterprise, so if you think it a good proposition, come to the meeting in Richmond next fall, prepared to support it and make it *go*. More anon.

Paul's A. Irving,
Secy.-Treas., Medical Society of Va.

News From Eagle Pass.*

Base Hospital No. 4.
Eagle Pass, Tex.,
April 1, 1919.

To the Editor:

Please forward last month's copy of your journal to above address, also this month's, unless I should notify you to the contrary. In the Army, one never knows where he will be from one month to the next. I hoped to be able to do some fishing in Virginia this month and get acquainted again with my old friends, but when Camp Logan, at Houston, was demobilized, and also the Remount Depot 325 (of which I was post surgeon), instead of sending me home, I was ordered to Ft. Sam Houston, where I was in the Base Hospital for a short while, and then ordered down here. We are just on the outskirts of Eagle Pass, a nice little town of about 4,000 inhabitants, with asphalt streets, a good three-story hotel, four banks, and many really fine stores. Across the Rio Grande is the Mexican city of Piedras Negras (black stones). It was formerly called "*Ciudad Porfirio Diaz*", but with the dawning of the revolution, anything with the name of Diaz was an anathema. I remember when I lived in Mexico in those early revolutionary days, it was the same with the names of streets, breweries, factories,—in fact anything with the name of Diaz was immediately blotted out and a more popular synonym substituted.

In addition to the Base Hospital, Eagle Pass camp consists of three battalions of the 3rd Infrantry Regiment, the remainder of the Regiment being assigned to various other border points. Our international carriage, a foot bridge, crosses the river here, also a railroad bridge which connects with the national lines of Mexico. No officers or soldiers are permitted to cross into Mexico without getting permission from the Commanding General of the Southern Department at San Antonio. Civilians, upon getting a passport, are allowed over, and many Mexicans who work in Eagle Pass cross the bridge daily to their homes.

There is the best of feeling between the two peoples in this town and everything is peaceful along this portion of the Rio Grande.

The climate is delightful and flowers are blooming in masses and in profusion and variety of color greater than I have ever seen elsewhere.

A. H. Deekens.
1st Lieut., M. C., U. S. A.
(*Home address, Lynchburg, Va.*)

*With Dr. Deekens' permission, we have published the above selection from his letter, as we are sure it will be of interest to our readers, among whom are many of Dr. Deekens' friends.

Book Announcements and Reviews

The Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Gynecology. By WILLIAM P. GRAVES, M. D., Professor of Gynecology at Harvard Medical School. Second Edition, Thoroughly Revised. Octavo volume of 883 pages with 490 original illustrations, 100 of them in colors. Philadelphia and London: W. B. Saunders Company. Cloth, $7.75 net.

This standard textbook has been brought completely up-to-date. It deals concisely and exhaustively with the *causes* of female disorders, not only those due to mechanical injuries, but particularly with those of a neurotic nature. A new section has been added dealing with the relationship of gynecology to the sex impluse according to the Freudian theory. The section on relationship of gynecology to the internal secretions has been entirely re-written and amplified making quite an interesting chapter.

Part two deals with inflammatory processes (special and general), new growths, defects of development, malposition, injuries, etc., discussing symptoms, diagnosis and treatment, medical and non-operative.

Part three is entirely Surgical. Dr. Graves is not only a good operator but he knows how to describe an operation in a few words, and best of all he is an accomplished artist, having made most of the illustrations himself.

Surgical devices for the cure of gynecological diseases are innumerable, and it is impossible to include them all in a book of this scope. The author is to be commended for having described only those operations which from his personal experience or judgment he has found best suited for a given condition.

Free of fads, eminently conservative, we heartily commend this book to our readers.

H.

On the Nature of Things. By HUGH WOODS, M. D., F. C. S. Published by Wm. Wood & Co., New York. Price, $2.50.

The problem of matter, motion, space and time has been considered as one of insurmountable difficulties, because of the abstract character of these four conceptions. The author, however, undertook the difficult task of bringing into proper light the fundamental facts expressed by those terms. In a very instructive manner, he discusses the various states of matter, chemical atoms and molecules; all modes of motion, heat, light, electricity and magnetism. He then takes up the conception of "Life." He defines it as being derived from complicated chemical processes, otherwise speaking, from pre-existent energy and motion. Life is a complex working of a machine which requires a continuous supply of energy. Nothing is lost of the matter of which the living machine is composed, and none of its energy disappears. Matter and energy change but are not destroyed. Sensations which are characteristic of life are but perceptions of motion and pressure. The nerve centres are conscious of sensations and this consciousness is due to very complex mechanisms, built up of elements of chemical composition. The knowledge of all these elements is indispensable for the proper understanding of the ever-absorbing problem of life. The author has succeeded in his efforts to present this great subject in a most illuminating way.

ALFRED GORDON.

Editorial.

The Forty Sixth Volume.

"If successful for the public; if unsuccessful for ourselves."

The first number of the forty-sixth volume of the *Virginia Medical Monthly* greets the members of the Medical Society of Virginia as the official organ of that organization and under the control of its Publication Committee. For forty-five years this journal has gone out to the doctors of Virginia and adjacent states under the ownership and publication, in former years, of Dr. Landon B. Edwards, and, in latter years, under the management of Dr. Charles M. Edwards, of Richmond. During these long years this journal, while it had no official connection with the State Medical Society, has been more or less closely associated with it. For many years, the founder, Dr. Landon B. Edwards, served the Society as secretary, and was honored and beloved during his life time, and now revered, for the splendid work he did for the Society during trying periods of its existence. Because of this personal connection of secretaryship and ownership and publisher of the *Virginia Medical Monthly*, the journal has naturally been expressive in a general way of the interests of this State organization, although there was no official connection whatever.

But now, feeling the great need of an officially controlled journal, through which the professional interests of doctors of the State and the welfare of the Medical Society of Virginia may be more adequately and properly served, the Executive Council, at a called meeting held in Richmond, October 7, 1918, directed the Publication Committee of the Medical Society of Virginia, to endeavor to secure control of the *Virginia Medical Monthly*, beginning April, 1919, and, if successful, to conduct same without loss to the owners, until the next annual meeting of the Medical Society of Virginia. It was further ordered by the Executive Council that an option for the purchase of the *Virginia Medical Monthly* be secured, if possible, for $1,000.00, subject to the approval of the Medical Society of Virginia, at its October meeting. Pursuant of this resolution, after repeated conferences, the following agreement was entered into by Dr. C. M. Edwards, Manager, and acting for the owners of the *Virginia Medical Monthly*, and the Executive Council, Dr. A. L. Gray, chairman, acting for the Medical Society of Virginia:

"It is hereby agreed between the Medical Society of Virginia and Dr. Charles M. Edwards, Manager of, and acting for the owners of the *Virginia Medical Monthly*, that the management of the said *Virginia Medical Monthly*, beginning April 1, 1919, shall be taken over and controlled by the Publication Committee of the Medical Society of Virginia, until the regular meeting of the Medical Society of Virginia, during the fall of 1919.

"It is also expressly agreed that this change of control shall be without loss to the present owners.

"It is further agreed that, in keeping with a resolution of the Executive Council of the Medical Society of Virginia, held in Richmond, October 7, 1918, the said Society shall have an option on the purchase of the *Virginia*

Medical Monthly for $1,000.00, subject to the approval of the Medical Society of Virginia, at its meeting during October, 1919."

ADVERTISEMENTS.

The Publication Committee, in assuming control of the journal, wishes to announce that it shall be the policy of the *Virginia Medical Monthly* to accept only advertisements which conform to the rules of the Council of Pharmacy and Chemistry of the American Medical Association. The pharmaceutical advertisements appearing in this issue have the approval of this Council. This department of the journal demands and shall receive the attention of the committee, and the good-will and patronage of our readers is solicited. From the advertising space of our journal, revenue must be gotten, because it cannot be expected that the subscription incomes can be sufficient in amount to defray the necessary expenses of the journal. To this end, members and readers of the journal are urged to support and patronize our advertisers. This will be mutually helpful: to the advertisers because their investment with us will thus be satisfactory and profitable, and to the journal because its usefulness to the Society in the advancement of scientific knowledge and in cementing together physicians of the State in a more influential organization, will be thus more possible.

Relative to the question of subscriptions, we must state that the policy of the journal will continue as heretofore—$2 per annum—until some other arrangement is made by the Society.

AIMS.

As the official journal of the Medical Society of Virginia, it shall be its aim to do all it can to add to the influence of that Society for the betterment of the profession in the State. With this general aim in view, to extend medical knowledge and advance science, must be a chief object of this publication. The standard of scientific publication must be high. The quality and worth of the scientific articles must be expressive of the best medical thought of our men. Our members should prepare their published work with care and present their scientific work to professional confreres through this State journal. Such effort can only result helpfully to all.

The journal, also, as an official medical publication, must be interested in medical education. As many of the members of the Medical Society of Virginia have been educated in institutions in Virginia, Virginia doctors must always be actively interested in the standard and quality of medical education in this state, as well as the general conduct of the medical institutions. So it is important that the physicians of this State shall not only give enthusiastic support to all measures which add to the efficiency of our two State institutions where the medical education is given, but, also, shall do all that is possible to assist in this work in local communities by identifying themselves with school boards and educational movements in their towns, cities and counties. This journal shall be interested in encouraging and assisting in this work, as it shall be in keeping in touch with the wishes of the members of the Medical Society of Virginia in regard to medical education in general.

Again, to secure the enactment and enforcement of just medical laws and to support the splendid work of the public health department in this State is another aim that the journal has. The organized physicians of this State should have a place in public print monthly where the thoughts and wishes of the profession may be expressed, thus supporting and helping in this field. With the aid of the public health officers, this journal, going to the desk of members of this Society each month, wishes to bring more forceful and effectively to medical men the part they may play in this general good. Thus doctors may, in co-operation, assist in enlightening and directing public opinion in all of the great medical problems that confront our State and nation at this time.

TO THE MEMBERS OF THE SOCIETY.

To succeed in the conduct of this medical journal, your support, enthusiastic and active support, is required. This is your journal, as now controlled, at least until October next. This probation period will prove whether or not, on the one hand, members of the Society really wish a State journal which serves no private end but public good; and, on the other hand, the ability and resourcefulness of the Publication Committee in making of this formerly well ordered, privately owned journal a real, live, useful, high standard State medical journal, representative of the State Medical Society.

"Not fire, nor walls of triple brass control the high behests of Fate."

Return of Function of Injured Nerve after Suturing.

The war has supplied a very considerable variety of lesions in the peripheral nerves. A serious problem presented itself for solution, viz., after what period of time could a sutured nerve be considered as having permanently lost its function.

Two groups of cases may be considered in this respect. One is where there is no sign of regeneration. The other is when signs of regeneration are evident. Regeneration is absent when the condition shows the following symptoms: Pressure of the nerve below the suture causes no sensation radiating towards the periphery in the domain of the injured nerve, no tingling, no burning; pinching of the nerve produces no sensation whatever; the paralysis remains total; pressure of the muscles produces no pain in the area of the distribution of the nerve; the electrical reactions show no improvement whatever.

Briefly speaking there is no regeneration when the infirmity is identical with that which existed after the injury, and before the suturing was done. A hopeless prognosis in such cases can be made only when repeated examinations at various intervals reveal no changes in the condition.

The second group comprises cases in which signs of regeneration are present. For the proper appreciation, several elements must be taken into consideration. If some signs of improvement are seen several months after the suturing, the return of function is very promising. But the prognosis is less favorable, if some return of function is observed only a year or more after the operation. However, there are cases in which a certain amount of improvement has taken place but no further progress is observed. There are also cases in which the improvement is exceedingly slow. The whole problem is certainly very complex.

When a nerve undergoes regeneration, the function reappears at first in the organs innervated by the nerve-filaments which take their origin very near the suture. When they are muscular branches, it happens that voluntary contractions of the muscles are not yet evident while the cutaneous areas innervated by the filaments which take their origin much below are already the seat of paresthesias. The latter is particularly evident when the suturing was done late. The muscles which became atrophied must be restored first before they are capable to contract voluntarily.

In regeneration of a nerve one must consider the degree of returned function for various portions of the nerve at which level the branches originate. The restoration of function may be insufficient for the upper portions and progress favorably for the lower portions and *vice versa.* Should the restoration be insufficient for the upper portions ,one must not conclude that there is global insufficiency of function. Moreover, it is an error to conclude about the infirmity of a limb when only the restoration of motor power is taken into consideration. Both the state of sensibility and that of motor power are to be considered before judgment can be reasonably formed.

In all cases it is absolutely necessary to make several successive examinations. The degree of restoration of function must be noted at each examination and only when repeatedly an arrest of restoration is observed can a final opinion be given as to the final infirmity. Exact measurements, electrical examinations, photographic reproductions—will all render valuable help in the proper estimation of the condition.

Alfred Gordon.

Functional Conception Of Medicine.

Structural changes in diseased organs as observed at autopsy present such a great degree of alteration that the medical observer feels that it is quite impossible for the organ in question to perform its functions in the body. For instance, when he takes in his hand the large white kidney of chronic parenchymatous nephritis and observes what a degenerative change has taken place in the glomerular mechanism and also in the epithelial cells of the renal tubule, and, further, in hyperplastic growth fibrous tissue throughout the organ, he wonders what is the use of giving a patient any sort of instruction in diet or medication.

He pictures to himself the duties of the epithelium to take from the renal blood the urinary solids. But he sees little normal structure and he does not credit the organ with power of function.

But modern students in medicine are looking away, at least in part, from the mere anatomical changes in organs toward the more important matter of the functioning power of the organs, notwithstanding the evident change

in form. For it is known that each organ of the body is supplied, inherently, with a large surplus of function power. The margin of safety, for the body, in the total functioning power of organs, is large. The body, for instance, is given more kidney tubules than it requires—more lung tissue than needed in ordinary use. Even when disease usurps much histologic structure, the function goes on and the body, by compensation, or by tolerance of inadequacy of function under limited action, lives on.

Using this fact, we wish now more and more to know the functional power of an organ. We resort to tests, not so much to picture the anatomical changes, but to get evidence as to what power remains in the diseased and changed organ to perform physiologic duty. From this we are able to lay down rules of guidance and from this we are able better to estimate the probable usefulness of the organ. We listen to the heart to hear the adventitious murmur, but from it we get very little idea of the heart function. We must put this organ through tests to get its function. If, for instance, the heart will return in rate to its normal rate in two minutes after the patient has skipped seventy times, we may put his heart function down as good. We no longer place final confidence in the urinary examinations, endeavoring to evaluate the presence of certain amounts of albumin and a given number of this sort or that sort of casts. We turn now with more assurance to the renal function tests.

Service of an organ, although crippled, and not its gross anatomical change, is what interests us now. For it is now seen that although greatly changed in pathologic structure, the power to function and to improve in function under favorable conditions is surprising.

A. G. B.

News of M. R. C. Officers.

Dr. Horace T. Hawkins, formerly of this city, but who was practising at Irvington, Va., at the time he entered the medical service of the army, has recently been commissioned major. About three weeks before the signing of the armistice, Dr. Hawkins' command was under fire near Metz, and he was slightly gassed, later suffering an attack of influenza. He was sent to the Mediterranean to recuperate.

Dr. Marshall L. Boyle, of this city, has received his discharge from the army and resumed his practice in Richmond. He was for nine months orthopedic surgeon at Camp Humphreys.

Capt. W. E. Vest, well known in this State, who was chief of the medical service at Camp Wadsworth, has recently been discharged from the army, and has resumed his practice in Huntington, W. Va.

Lt. J. N. Williams, who has been doing X-ray work in France for the past eighteen months, has been on a vacation at his home in Clifton Forge. His orders were to report at Camp Grant, Rockford, Ill.

Lt. William H. Craig, of this city, has been transferred from the Base Hospital, Camp Wadsworth, to Camp Meade, Md.

Lt. Raymond C. Blankinship, of Marion, Va., recently discharged after eighteen months' service at Camp Travis, Tex., will locate at Stoughton, Wis.

Lt. Paul Davis, Roanoke, has been decorated by the French government, for exceptional service not on the firing line.

Major Hugh T. Nelson has returned to his home in Charlottesville, after his service in France. He was in the midst of the heavy fighting on the western front last summer and fall, including the six weeks' drive through the Argonne Forest and along the Meuse River.

Dr. Fred. M. Hodges, of this city, who was connected with Base Hospital No. 45, has been promoted to major.

Dr. A. L. Herring, also of this city and with the same hospital, has likewise been given his majority.

Dr. Robert E. Timberlake, of this city, who has seen service with the overseas forces, received his discharge about the middle of March.

Lt. Dean C. Cole, formerly with U. S. General Hospital No. 42, at Spartanburg, S. C., will be a field director of the Virginia Anti-Tuberculosis Association.

Lt. R. J. Wilkinson, formerly of this city, who was stationed at Camp Lee for some time, has returned to Huntington, W. Va., and resumed his duties as surgeon at the C. & O. Hospital.

Dr. John F. Ragland, Centralia, has been released from service in the navy, in which branch he was an assistant surgeon, with the rank if lieutenant, and has taken up his professional work.

Dr. Percy G. Hamlin, who graduated from

the Medical College of Virginia in 1916 and was interne at a Philadelphia hospital prior to entering the service, has been promoted to the rank of captain. He has been wounded since being in the service and has been awarded the British military cross.

Capt. Robert R. Hoskins, who is stationed at the debarkation port in New York, recently paid a visit to his home in Mathews County.

Dr. William A. Harris, Spotsylvania, who entered the service with the rank of first lieutenant, has been promoted rapidly since being with the Expeditionary Forces in France, and we understand is now a lieutenant-colonel.

Capt. Waller Nelson Mercer, of this city, has been detached from his division, and is taking a special course at one of the French universities.

Dr. Arthur S. Brinkley, who is associated with Dr. Horsley at St. Elizabeth's Hospital, this city, has received his discharge from the medical corps at Camp Greene, N. C. He and his bride, formerly Miss Mary Rayner, of Texas, have an apartment at Ingleside Court, on Davis Avenue.

The following Lynchburg doctors have returned from the army and have taken up the practice of their profession: Drs. John W. Carroll, W. H. Evans, F. C. Plunkett, T. Erle Rucker, Jas. W. Walters and A. L. Wilson.

Dr. Don P. Scott, of Monroe, Va., has received his discharge from the army and has located in Lynchburg.

Dr. Barton Bates McCluer, of Bon Air, Va., who has also received his discharge from the army, is practising his profession in Lynchburg. Dr. McCluer was with the British army for sixteen months. He had trench fever in the spring of 1918, was severely gassed last October. He returned to the United States in January.

Dr. B. L. Traynham, Sweet Chalybeate Springs, Va., has been with the Expeditionary Forces in France since September 1918.

Maj. Joseph Howell Way, Waynesville, N. C., has received his honorable discharge and resumed his practice after nearly two years in the service.

Lynchburg and Campbell County Medical Society.

Officers of this Society, elected at its annual meeting are: President, Dr. John W. Dillard; vice-president, Dr. Robt. P. Kelly, and secretary-treasurer, Dr. E. F. Younger, all of Lynchburg.

Dr. Raymond H. Dunn,

Of South Charleston, W. Va., who moved into his new hospital the first of February, is now beginning an addition of twenty rooms.

Dr. Dunn has just returned from a visit to relatives in Clifton Forge, Va.

Medical College of Virginia.

At a meeting of the Board of Visitors of the Medical College of Va., Richmond, March 19, Dr. Stuart McGuire, who has been dean of this institution since the consolidation of the two Richmond Medical Schools in 1913, was elected president. He is the first president the school has had since the resignation of Dr. S. C. Mitchell in 1914. Each department has a faculty chairman. At the same time, all professors and associate professors for 1918-1919, in the schools of medicine, dentistry and pharmacy were re-elected, with the addition of Dr. William F. Mercer as associate professor of laryngology, to succeed Dr. Samuel Cecil Bowen, deceased.

At an informal dinner at Jefferson Hotel, on the evening of March 20, about eighty members of the board of visitors and members of the faculty of the College united in extending a hearty welcome home to Lt. Col. McGuire, the new president, who had only recently returned from France. Among the after dinner speakers were Dr. McGuire and Drs. W. L. Peple, P. V. Anderson, Jas. H. Smith and J. F. Geisinger, all of whom served with Dr. McGuire's unit in France.

The American Pediatric Society

Will hold its thirty-first annual meeting at the Chalfonte Hotel, Atlantic City, June 16, 17 and 18. Dr. Edward E. Graham, Philadelphia, is president, and Dr. Howard Childs Carpenter, also of Philadelphia, is secretary.

Two Hospitals Planned For Danville.

Dr. C. W. Pritchett, of Danville, Va., has announced that he will erect a three-story hospital in that city, on property he recently acquired from the Odd Fellows. The venture is to represent an investment of $100,000. The plans, which have been prepared, call for accommodation for 60 patients. Although Dr. C. W. Pritchett and his son, Dr. Bernard Pritchett, will control the hospital, it will be

open to the members of the medical profession of that city for surgical work and treatment.

Plans are being made to conduct a campaign in Danville, to raise $50,000 to build a tuberculosis sanatorium on property on the Caswell County Road, donated nearly two years ago by Mr. and Mrs. R. L. Dibrell, of that city. The campaign will be undertaken as soon as the Victory Loan drive has been completed.

Dr. Jas. MacLean Rogers,

Formerly of Amelia, Va., who graduated in the 1917 class, Medical College of Virginia, is now engaged in medical missionary work, and is in charge of a hospital in Soonchun, Korea, Asia.

Morganton Hospital To Be Enlarged.

The N. C. State Hospital for Insane, located at Morganton, is to be enlarged. It is announced that work on this addition will be commenced by May 1.

The Kessler-Hatfield Hospital,

Huntington, W. Va., at an expense of $40,000, has recently completed its new clinical building of brick and tile. It is equipped with the most modern X-ray and biological laboratory and also one of the finest operating rooms in the country.

Dr. M. P. Dillard,

Formerly of Welch, W. Va., is now at Asheville, N. C.

Dr. and Mrs. Paul W. Howle

Returned to their home in this city early this month, after a visit to Atlantic City and New York.

Free Dispensary Work At Medical College of Virginia.

According to the report made by Dr. Howard Urbach, superintendent of the dispensary of the Medical College of Virginia, 12,124 visits were paid this free dispensary during 1918. The work of the departments has grown greatly. Twelve physicians have been added to the staff in the past year, and also a number of nurses. There are now four full-time nurses on duty at the dispensary, and seven part-time nurses, including several volunteers.

Dr. Clifton M. Miller

Was re-elected a member of the Richmond City School Board, at a meeting of the City Council, this month.

Sydney, N. S. W., In Grip Of Influenza.

According to news received through Vancouver, B. C., hundreds of new cases of influenza are being reported at Sydney, New South Wales. It was stated that the government had closed schools, theatres, picture palaces, and race courses; that hotel customers were allowed to remain only five minutes in the bars, and that masking regulations had been extended and meetings prohibited.

Piedmont Sanatorium,

At Burkeville, Va., for the treatment of colored consumptives, still had some vacant beds the latter part of March. The hospital charges are $2.50 a week or $10 a month. Dr. H. G. Carter, who has charge of the Sanatorium, will gladly furnish any information to doctors or prospective patients.

Dr. John N. Upshur Honored.

On the first of this month, about twenty-five physicians of this city gathered at the home of Dr. Upshur and presented him with a handsome silver pitcher and waiter in honor of of his fiftieth anniversary in the practice of medicine. The pitcher bears the following inscripton: "To Dr. John N. Upshur, a token of regard and admiration from certain of his professional friends on the occasion of his fiftieth anniversary in active practice, April 1, 1919."

Although seventy-one years of age, Dr. Upshur is still active in the practice of his profession and is recognized as one of the prominent physicians of this State. He is an ex-president of the Medical Society of Virginia and of several local societies.

St. Luke's Hospital,

This city, is being renovated and it is expected will be ready for the reception of patients by the middle of May or first of June. Dr. Stuart McGuire, the surgeon in charge, has been on a trip to Florida and expected to attend clinics for a short time at St. Mary's Hospital, Rochester, Minn., before resuming active work here.

Dr. F. Brooks,

Swetnam, Va., was nominated Republican candidate for the Eighth Congressional District to succeed Representative Carlin, at a district convention meeting in Alexandria, April 14.

Dr. T. H. Massey,

Who was practising at Warm Springs, Va., at the time he entered the army, has received his discharge from the service, and is now located at Morrisvale, Boone County, W. Va.

The Seaside Cottage Sanitorium

Will be opened at Virginia Beach, June 1. This institution is for the accommodation of mothers, who wish to take their sick children to the seashore. It is well situated on the ocean front and will be equipped with every modern convenience. An experienced dietitian and a corps of competent graduate nurses will be constantly in attendance. Dr. William L. Harris, of Norfolk, who for twenty-five years has had charge of the Virginia Beach Infant Sanitorium for charity patients, and the poor of Norfolk and vicinity, will be in charge of Seaside Cottage Sanitorium.

Dr. E. E. Walker,

Recently connected with the Epileptic Colony, is now located at Evergreen, Va.

City License Tax Imposed on Norfolk Doctors.

A license tax of $25 flat and one per cent. on all gross income above $2,000 a year, has been imposed by the City Council of Norfolk, Va., upon the doctors of that place. As a reprisal for this, the Norfolk County Medical Society, at a meeting on April 7, voted to charge the city full professional fees for all police medical and surgical work. To this time, the physicians of Norfolk have been rendering the city a great deal of free service each year in the handling of police cases and in services rendered under the workmen's compensation act, which insurance is carried by the city government.

Dr. Robert K. Buford,

Formerly of Princeton, W. Va., has succeeded Dr. William R. Laird as surgeon at Sheltering Arms Hospital, Hansford, W. Va.

Dr. J. Ross Hunter, Jr.,

Returned to his home in Huntington, W. Va., the latter part of March, after having been under the treatment of Dr. W. T. Graham, of this city.

Medical Inspection of Schools in Amherst County.

The subject of the medical inspection of public schools of Amherst County, Va., is beginning to demand considerable attention. Dr. Mary E. Brydon, of the State Health Department, has made several visits to the county and discussed with school authorities and teachers the importance and necessity of this branch of work. Eye-testing cards have already been distributed to the teachers and other features will be added at an early date.

Dr. Edward McGuire,

Of this city, is at home again after an extended stay in the North.

Dr. William F. Drewry

Was elected chairman of the Petersburg, Va., Red Cross Chapter, at its annual meeting, April 2.

Losses Of American Medical Corps In War.

Casualties among American medical officers in France, from the time of the arrival of the first units to March 13, were 442. A War Department statement shows that 46 were killed in action, 22 died of wounds, 12 died of accident and other causes, 101 died of disease, 4 were lost at sea, 7 were missing in action, 38 were taken prisoners, and 212 were wounded in action.

Dr. E. D. Wells,

Recently of Clifton Forge, Va., has moved to Huntington, W. Va., where he is oculist for the C. & O. Hospital.

Dr. and Mrs. John W. Scott,

Gordonsville, Va., last month, paid a visit to their son in Basic City, Va.

Dr. McGuire Newton,

Of this city, was a visitor in New York last month.

New Commissioner Of State Hospitals.

Willard C. Williams, of Richmond, formerly chief clerk to the State Tax Board, has been appointed by Governor Davis to succeed J. M. Bauserman, of Woodstock, as Commissioner of State Hospitals. The appointment was effective April 1, 1919, and is for a term of four years, subject to confirmation of the Senate.

The West Virginia State Medical Association

Will hold its annual meeting at Hotel Waldo, Clarksburg, May 20-22. Prospects are that there will be a large attendance. Dr. Robt.

J. Reed, Wheeling, is president and Dr. J. Howard Anderson, Marytown, secretary.

The New T. B. Sanatorium in Virginia.

The State Board of Health has recently purchased land near Charlottesville, formerly known as Moore's Brook Sanatorium, and intends to build at this location a sanatorium for the treatment of tuberculosis for the people of that locality. This is to be the first institution built on the mill tax appropriation. The State Board of Health has drawn up a plan with the authorities of the University of Virginia according to which the Medical School and State Board of Health will affiliate in conducting the sanatorium. According to the plan the University Hospital will be available for complications met in the tuberculosis patients and also the students from the Medical School and the nurses from the Training School of the University will be employed regularly in the wards of the Sanatorium and thereby will receive experience in this type of disease.

Married—

Dr. Walter A. Warfield, Alexandria, Va., and Miss Ruth Seidler Barkley, Petersburg, Va., April 25.

Lt. Turner Southall Shelton, M. C., and Miss Lily May Hundley, both of this city, March 20. Immediately after the ceremony they left for Ft. Oglethorpe, Ga., where Dr. Shelton is now stationed.

Dr. John Blair Fitts, of this city, and Miss Marion Elwood Mantius, of Fairhaven, Mass., in New York City, March 13, immediately upon the arrival from overseas of the bride and groom.

Capt. Charles Phillips, of this city, and Miss B. Francis Robinson, March 12, in New York City. They were both members of Base Hospital unit No. 45, and were married as soon as they received their discharge.

Dr. John M. Harwood, Petersburg, Va., and Miss Sue Sommerville Cunningham, Durham, N. C., April 26.

Dr. William Berry Marbury and Miss Violetta Carroll Mercer, both of Washington, D. C., April 2.

Dr. W. P. Hoy,

Petersburg, Va., had a fall of some fifteen or twenty feet through the elevator shaft of the Petersburg Hospital, early this month, and as a result, suffered from a badly sprained arm and many bruises. Thinking the elevator was in place, he opened the door in the dark and fell to the concrete basement.

Dr. R. Bruce James

Was elected a member of the City School Board of Danville, Va., at a meeting held the latter part of March.

70,000 Doctors Applied for Commissions in Medical Corps.

The central governing board of the Volunteer Medical Service Corps, which was dissolved April 1, announced that nearly 70,000 applications were received from physicians for membership in the corps, and 56,540 were received and coded prior to the signing of the armistice. The qualifications of these civilian doctors, classified and coded on cards will be turned over to the Surgeon General's Library, where they will be accessible to all government departments. With the approximately 40,000 medical officers in the regular army, navy and Public Health Service, practically all doctors of the country will be listed available for the nation's needs.

Hospital Appointments.

In our March issue, we announced hospital appointments for all but four of the graduating class of the Medical Department of the University of Virginia. Appointments for these have only recently been made and are as follows: Dr. Randolph Moore Gilliam, Newport News, to King's County Hospital, New York; Drs. Richard Edward Albert, Portsmouth, and William Marmaduke Brown, Paris Ky., to Cincinnati, O., General Hospital; Dr. James Alexander Wilkins, Lynchburg, to State Epileptic Colony, Madison Heights, Va.

Third Wave of Influenza Hits England.

The statement is made by Public Health Reports that according to official advices from England, there has been another recrudescence of influenza in many parts of that country, so that the disease continues to be a matter of grave concern to sanitary authorities. Two well-marked waves of influenza have swept over England in the past few months and the country is now in the midst of a third. Newspaper cable advices dated March 28 indicate

that this third wave has continued with great severity and a number of deaths have been reported.

The Hospital Program

Of the Methodist Centenary movement calls for the expenditure of $2,288,624 in foreign lands during the next five years. Forty-five more hospitals and twenty-four dispensaries will be built. The church now has twenty-six hospitals abroad and it runs forty-eight in the United States. In capacity, these forty-eight range from the Wesley Memorial Hospital, Chicago, caring yearly for about 7,000 cases, to the Sunnyside Methodist Sanitorium for Tuberculosis at Silver City, N. M., accomodating 75 patients yearly.

In addition to the new hospitals and dispensaries to be established, the Board expects to take into the service fifty-nine more missionary physicians and surgeons, thirty-two missionary nurses, and 166 native doctors, nurses and other medical assistants.

In Portuguese East Africa, a missionary doctor is the only medical man for an area containing three and a half million people. Sometimes at 6 A. M., fifty patients will be eagerly awaiting attention outside the little hospital. When Chinese bandits attack a district, they always spare the mission hospitals because of their reputation for healing the sick, and the care of wounded during the Chinese civil war raised the estimation of the foreign doctors in the eyes of the people still higher. These instances are cited to show the need of medical missionaries and the regard in which they are held by the natives in the countries where they work.

Dr. A. Parker Hitchens,

One of the foremost bacteriologists in the United States, and secretary of the Society of American Bacteriologists, has accepted an appointment as associate director of the biological division of the Lilly laboratories, Indianapolis.

Dr. Hitchens was associated with the H. K. Mulford Company for eighteen years, and during the last ten was director of its biological laboratories. In 1918 he was commissioned a major in the medical corps and took up his duties in Washington at the Army Medical School, devoting practically all of his time to a study of influenza. Upon discharge from active service he was commissioned Lieutenant-Colonel in the Medical Reserve Corps.

Dr. John A. Tyree,

Until recently of Page, W. Va., has gone to Bellevue Hospital, New York City, for some time, with the idea of permanently leaving the coal field section.

Dr. B. B. McCutchan,

Clifton Forge, Va., enjoyed a visit at Hot Springs, Va., last month.

Dr. Hunter McGuire,

Of Winchester, Va., spent some time at Old Point Comfort, Va., in March.

Dr. I. Carrington Harrison,

Danville, Va., qualified in court, March 13, as a member of the State Board of Medical Examiners, succeeding the late Dr. R. S. Martin, of Stuart, Va.

Dr. B. H. Tatum,

Clifton Forge, Va., was recently called ta Roanoke by the death of his brother-in-law.

Dr. R. M. Taliaferro,

Lynchburg, Va., and his small son have been enjoying a fishing trip in Florida.

Dr. E. C. Powell,

McKenney, Va., who recently suffered a paralytic stroke, is reported as much improved.

Screening of Foods in Markets to be Enforced.

Health department inspectors of this city have been instructed to enforce the ordinance which requires that all foodstuffs offered for sale shall be screened between April 1 and October 31. Violations of the ordinance shall be reported to the police court. All places where food is exposed are required to be screened; all people who handle food products are required to have permits, and all such goods in transit are required to be covered at all times.

Physical Training In Public Schools.

A quickened appreciation in all nations of the value of physical training in the schools has resulted from the war and, in this country, eight states have enacted laws requiring this training. Illinois led by passing the law in

June 1915. Other states which have already enacted laws along this line are New York, New Jersey, Nevada, Rhode Island, California, Maryland and Delaware. Several other states have given the subject legislative attention. With the exception of Nevada where the law applies to high school children only, the laws apply to all school children and the time requirement ranges from one hour each school week to two and a half hours.

Many of the foreign countries are likewise interested in this subject and are passing laws requiring physical training or a system of cadet training for school children.

The U. S. Civil Service Commission.

Washington, D. C., announces an open competitive examination for medical assistant, for men only, May 13, 1919, to fill a vacancy in the Bureau of Chemistry, Department of Agriculture, Washington, D. C., at $2,000 a year, and future vacancies requiring similar qualifications.

For Sale—For price of property, the best country location in the State; 12-room house, 8-room hospital, and three acres of land in a good town of 500 inhabitants. Farming country surrounding; collections 90%. Did $10,000 business last year and this could be doubled or more by having an assistant and doing all your own surgery. Hospital established 6 years. Address "Southwest Virginia," care this journal.—(Adv.)

Good Location For A Doctor.

Having retired, I am prepared to assist a competent ex-army doctor to an immediate practice. Church Hill and Fulton have a population exceeding 50,000, with only a dozen doctors. They are both ethical and sociable, and most of them will refer cases (especially obstetrical) to a new comer. Address Dr. Ira J. Haynes, 3418 East Broad Street, Richmond, Va.—(Adv.)

THE FLU.

When your back is broke and your eyes are blurred,
And your shin bones knock and your tongue is furred,
And your tonsils squeak and your hair gets dry,
And you're doggone sure that you're going to die,
But you're skeered you wont and afraid you will,
Just drag to bed and have your chill,
And pray the Lord to see you through,
For you've got the Flu, boy,
You've got the Flu.

When your toes curl up, and your belt goes flat,
And you're twice as mean as a Thomas Cat,
And life is a long and dismal curse,
And your food all tastes like a hard boiled hurse,
When your lattice aches and your heads a-buzz,
And nothing is as it ever was,
Here are my sad regrets to you,
You've got the Flu, boy,
You've got the Flu.

What is it like, this Spanish Flu?
Ask me, brother, for I've been through,
It is by misery out of Despair;
It pulls your teeth and curls your hair;
It thins your blood and brays your bones,
And fills your craw with moans and groans,
And sometimes, maybe, you get well,
Some call it Flu, I call it hell! !

Anonymous.

Obituary Record.

Dr. John Fitzhugh May,

A prominent Southside Virginia physician, died suddenly of heart disease at his home in Waverly, Va., March 18. He was a native of Petersburg, Va., and in his sixty-first year. He received his medical diploma from Jefferson Medical College in 1881, and became a member of the Medical Society of Virginia in 1882. He is survived by three children.

Dr. James W. Lankford,

Of New Church, Va., died of Brights disease, March 30, aged fifty-eight years. He was a native of Bedford, Va., and studied medicine at the Medical College of Virginia, from which he graduated in 1901.

Dr. Stuart Thornton Ashton,

Formerly of King George County, Va., died early this month at his home at Ballston, Va. He was sixty-two years of age. Dr. Ashton received his medical education at the University of Maryland, taking his diploma in 1876. He is survived by his wife and several children.

r. John Churchill Gordon,

Whose home was just outside of Charlottesville, Va., died March 23 at University Hospital, aged 88 years. He was born and raised in Orange County, Va., and studied medicine at the University of Virginia and Jefferson Medical College. Seven children survive him.

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Original Communications.

CONGENITAL PYLORIC STENOSIS—A COMPARISON OF THE OPERATIVE PROCEDURES FOR ITS RELIEF, AND A CONTRIBUTION TO THE TECHNIQUE.

By W. LOWNDES PEPLE, M. D., F. A. C. S., Richmond, Va.
Professor of Clinical Surgery, Medical College of Virginia.

Congenital Pyloric Stenosis has long been recognized, but for many years it was regarded more as a pathological curiosity than a definite clinical entity.

To William A. Downs, of New York, is due the credit of focusing the attention of the profession on this disease, and the great good and lasting benefits that are soon to be seen are directly attributable to the influence of his work and writings.

As to the cause of this condition, we know nothing.

Its pathology consists of a marked thickening of the circular muscle of the pylorus, with an intense oedema; just as though the tissues about the muscle had been tightly infiltrated for an operation under local anaesthesia.

Downs believes that there is a congenital hypertrophy of the circular muscle, and that the gradual closure of this is followed by the oedema, as the violent peristaltic efforts of the stomach meet the resistance of the gradually closing ring.

The symptomatology has been worked out until the diagnosis is no longer a matter of great difficulty. The trouble usually begins from the second to the fourth week, and is, as a rule, gradual in onset.

In an infant not otherwise ill, there is persistent vomiting after the taking of food. Distinct peristaltic waves can be seen, beginning at the cardiac end of the stomach and spending themselves against the closed pylorus on the right. The stools lessen in size and frequency, and often stop for days at a time, or altogether. Finally, a small hard mass, about the size and shape of an olive, can be felt in the region of the pylorus, and the picture is complete.

Congenital Pyloric Stenosis is by no means a common condition, but when its diagnostic principles have become widely disseminated among the profession, it is safe to predict that more and more cases will come to operation, and that these will be exactly balanced by a corresponding diminution in the cases of inanition, marasmus and malnutrition in the vital statistics. History will repeat itself: the late cases will come first, and then the earlier, operable ones will follow.

The problem of Congenital Pyloric Stenosis is a mechanical one: a blocked pylorus, in an infant six weeks old, that must be met with an abdominal operation. Add to this a week or ten days of almost complete starvation, and what seemed a highly hazardous undertaking has deepened into one of extreme peril.

In a series of sixty-six cases reported by Downs, the total mortality was 29%. Posterior gastro-enterostomy gave 35% mortality, while the Rammstedt operation gave 23%. These cases were taken as they came, and operation, even on the moribund, was not refused. This undoubtedly is a higher mortality than he will ever report again, as cases are coming earlier; but still, with a mortality of 29% in the hands of one so skilled and experienced, it is readily seen that at best, the operation is no light undertaking.

Posterior gastro-enterostomy has served a useful purpose in these cases, but it bids fair to be completely supplanted by the simpler procedure devised by Rammstedt.

Gastro-enterostomy requires from thirty minutes to an hour. The greater traumatism and time consumed increase the opportunities for shock at least five-fold. The stomach and jejunum are both opened, multiplying the chances of infection. Hemorrhage that can be seen and hemorrhage that we conceal with

stitches are far more likely to occur.

The mere mechanical problem of uniting a stomach, whose walls are greatly thickened from constant spasm, to the jejunum, whose walls have undergone a corresponding atrophy and shrinkage from disuse, is no small part of one's troubles. Even the smallest needles and softest sutures will tear, at times, the delicate tissues of the bowel.

The stomach empties itself through the artificial opening more quickly than normal, giving rise in some cases to digestive disturbances after recovery. Finally, if gastro-enterostomy should fail mechanically, one has nothing left but autopsy: should pyloroplasty fail, one still has gastro-enterostomy.

The Rammstedt operation of partial pyloroplasty requires far less technical skill to perform. The dangers of infection and hemorrhage are minimized.

Through an upper right rectus incision, the tumor is readily found and picked up between the thumb and fore-finger of the left hand, and incised with a scalpel longitudinally on its least vascular surface, usually in the line of the lesser curvature. The incision is generally about an inch and a half in length and is made down to the gastric mucosa, which rolls into the wound. With a pair of small, blunt scissors, or hemostats, the divided circular muscle is now separated, making a diamond-shaped wound of the incision.

The separation should start on the stomach side and be pursued cautiously toward the duodenum. Downs calls attention to the abrupt transition of thickened stomach into duodenal structures as thin as tissue-paper. It is here that perforation is apt to occur unless one is very careful. Should such an accident happen, the opening can quickly be closed with one or more small sutures.

If the circular muscle is well divided, gas pressed from the stomach will demonstrate its patency, and the peristaltic effort of the stomach can be depended on to keep it open. The passing of probes through a small opening in the anterior wall of the stomach has been abandoned. It gave rise to infections and was found to be unnecessary.

No sutures are required and ligature of vessels is seldom necessary, as the slight oozing is readily controlled by the pressure of hot pads. The whole operation can usually be completed in from ten to fifteen minutes.

I have had but four cases, in all, of this condition. In two, gastro-enterostomy was done, and in the others the Rammstedt operation was performed. After briefly reporting them, I wish to call attention to certain features of the technique which have seemed to me to be of much practical importance.

Case 1.—Referred by Dr. McGuire Newton. V. P. White. Male. Age, ten weeks.

This baby presented all the classical symptoms of this condition, plus those of starvation. He had vomiting, visible peristalsis, the tumor, and almost complete constipation. He was greatly emaciated, weighing two pounds less at the time of operation than at birth. He was small, withered and shrunken. His features were pinched, and his extremities were cold. He was a miserable operative risk.

Bismuth-pictures taken by Dr. A. L. Gray showed a tiny thread-like opening at the pylorus. Six hours later, there were but a few scattered particles throughout the intestines.

On Friday, the 13th of February, 1914, a posterior gastro-enterostomy was done. It took fifty minutes. The child stood the operation well, made an uneventful recovery, and is perfectly well today.

Case 2.—Referred by Dr. McGuire Newton. L. G. White. Female. Age, seven weeks.

Was apparently normal at birth, weighing seven and three-quarter pounds. She gained a pound in the first two weeks, and was plump and healthy. About the tenth day she began vomiting. The amount was small at first, but it steadily increased in quantity and diminished in frequency. Constipation was very obstinate. There was visible peristalsis, and a well-defined tumor was made out. She weighed half a pound less at the time of operation than she did at birth. She was, if anything, a worse risk than the first case: being extremely emaciated, pinched and shriveled.

November 24th, 1914, posterior gastro-enterostomy was done. It required forty-five minutes. The vomiting continued, and the little thing looked cold and depressed. I feared that the opening was not working, and that she would surely die.

On the third day, I dressed the wound. When the second strip of adhesive was removed there was an audible gurgle, after which there was no further trouble. All our pains and trouble were nearly set at naught by a strip of adhesive plaster being applied too tightly.

The lesson here is too obvious to need comment.

Case 3.—Referred by Drs. J. A. Cloyd and Ben Rosebro.

D. B. White. Female. Age, five weeks and four days.

Was normal at birth, and weighed eight and three-quarter pounds. Did well for two weeks, when she began spitting up her food. This increased in amount and decreased in frequency, until she was vomiting two or three feedings at a time. Bowel movements were scant. At the time of operation, had not moved but once in five days. There was visible peristalsis, well marked, and the tumor, which was felt by her physicians, I made out plainly under the anaesthetic. She weighed six pounds at the time of operation, having lost just two and three-quarter pounds since birth. This baby was not a bad risk, being in far better physical condition than either of the others.

On April 28th, 1916, the Rammstedt operation was done. It was easily and quickly accomplished, but a small puncture was made at the distal end of the tumor by going too far toward the duodenum. It was readily closed with sutures, and no untoward result followed. The operation required about twenty-minutes. There was no shock or depression following it and the vomiting stopped at once, only recurring once or twice during convalescence. The child is perfectly well today.

Case 4. Referred by Dr. McGuire Newton.

J. G. White. Male. Age, seven weeks and five days.

Had marked laryngeal spasm from birth, giving him a peculiar inspiratory crow. No serious digestive disturbance until about the sixth week, when regurgitation of food began, at first, once or twice a day, until vomiting occurred after every feeding. It was of a violent expulsive character, coming through the nose as well as the mouth. He stopped gaining in weight and then began to lose. Stools, which were scant, continued up until four days before operation, and then stopped altogether. The peristaltic wave was plainly visible.

The tumor was made out, but it was less evident than in the first two cases, owing to the better physical condition of the child. His muscles were still firm, and his fat had not been absorbed. He was by far the best risk of the lot.

On September 2nd, 1916, the Rammstedt operation was done. It required fifteen minutes. There was immediate relief; the vomiting was infrequent and small in amount. He is perfectly well and normal at the present writing.

To briefly summarize: There were four cases, all white; two boys and two girls. Two were diagnosed early and were good risks; the other two were late, and were very bad risks.

The easy Rammstedt operation was done on the good ones, and the severer gastro-enterostomy was done on the bad ones. Could the operations have been reversed, the favorable results obtained might have been expected; but in the earlier cases I had not heard of the newer operation. In spite of this fact, all recovered and are well and vigorous at this time.

I wish to state further that in none of the cases reported have I had any part in the diagnosis; and in their after-care I have been merely an intensely interested spectator.

Difficulties on ordinary table.

Without going into a detailed description of the preparatory treatment, I wish to emphasize two points:

First, there should be a thorough gastric lavage just before the operation, to rid the stomach of curds and mucus that would otherwise be passed into the empty intestine as soon as the obstruction is removed, where rapid absorption and intoxication would take place. This also empties the stomach of some of its gas, making it easier to handle.

Secondly, we should guard against acetone-poisoning, by the administration of alkalies

before operation, and alkalies and sugar immediately after the operation. Acetone-poisoning should be anticipated whenever a child has to take an anaesthetic.

It is doubly important in these cases of starvation; for they all doubtless have both acetone and diacetic acid intoxication, and the additional amount caused by the anaesthetic may be more than the system can stand. The alkali can be given by mouth, by bowel, or both.

I recently saw a Rammstedt operation most skilfully done by a colleague, but it ended fatally thirty-six hours later. The baby was a haemophiliac, and oozed from every severed capillary until it was exsanguinated.

Our most lasting lessons are learned from misfortunes. This case teaches that we should take the coagulation-time in every case, and inaugurate prophylactic measures when indicated.

The two fundamental things in the technique of these operations are to save time and heat. I do not mean that the operation should be hurried through. Time is saved beforehand, by having everything in readiness, so that once the operation is started it can go forward without delay.

A tiny little mite of a baby is simply lost in the middle of a big operating-table. The

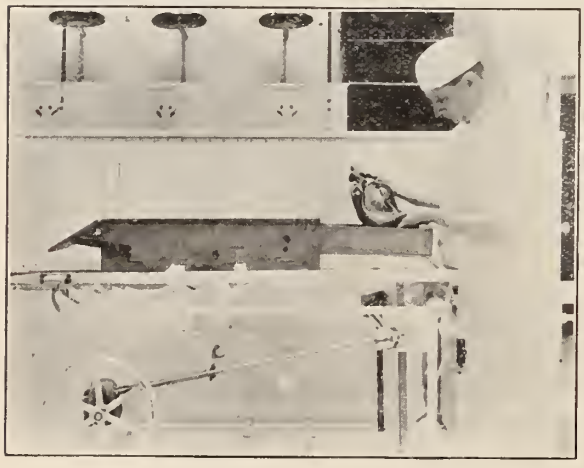

Table being filled with hot water bags.

blankets, the sheets, the towels and other linen are so big and awkward that they are constantly in the way. He sinks into the pillow that has been put under him, and one is ever fearful lest the hot water bags laid next to him are going to burn, instead of warm him. The feet have to be held by an assistant, who is ever in the way.

The anaesthetist is so close that he is a constant source of apprehension, lest he and his tricks contaminate the wound. One works in a cramped and awkward position, and re-adjustments are often necessary. We wish to get through with a minimum of anaesthetic, for when these little patients have enough of the anaesthetic, they have too much, to put it in plain Irish.

The little table follows the big one in any position.

To meet these difficulties, I have devised a special table for these little people.

It is made of wood and is twenty-eight inches long, ten inches wide, and eight inches high. It contains a drawer which can be filled with hot water bags to supply and maintain heat without any danger of burning. It has a head-piece that drops back at any desired angle, and a screen to keep the anaesthetist well out of the way. It is fastened, by bandages passing through its lower rim, to any operating-table, making it perfectly steady and allowing it to follow the big table in Trendelenburg or any other desired position.

Slots and holes are cut in its upper surface, so that the hands and thighs may be securely fastened. These also allow the heat from below to come up under the covers to maintain an even temperature.

The height of the table raises the surface of the abdomen about as high as the adult's would be.

Special little blankets are used to wrap the chest and legs, and little covers and sheets are made just to suit the baby; with a special set of little instruments, needles and sutures, everything is brought into proper proportion.

Showing clear exposure in contrast to plate I.

He is raised up out of the midst of things; giving one a fair chance to get at him, in him and out of him, quickly and deftly.

1209 *West Franklin Street.*

THE PRESENT STATUS OF CAESAREAN SECTION.

By B. H. GRAY, M. D., Richmond, Va.
Associate in Obstetrics, Medical College of Virginia: Obstetrician to the Memorial Hospital.

Before the antiseptic era, Caesarean Section was looked upon as such a fatal operation that it was only done as a last resort, after all other means had been employed to deliver the child, to prevent the woman dying undelivered.

In 1876, Poro introduced the alternative operation of supra-vaginal hysterectomy, removing the infected uterus and stitching the cervical stump to the lower angle of the abdominal wound. For a time it seemed that this method would supplant the conservative section. Then came the conservative operation of Sanger, in 1882, the principle of which was the proper suturing of the uterine incision and the preservation of the uterus.

Since the introduction of the Sanger operation, there has been a constant endeavor to reduce the mortality of Caesarean Section, which has been accomplished by the achievement of modern surgery and obstetrics and a better understanding of the indications for and against the operation.

During the period of development, the indications for which the operation was performed were practically limited to cases of contracted pelvis or disproportion between the foetal head and pelvis. The increasingly good results which have followed in properly selected cases have more than correspondingly broadened the indications until today we see the operation advocated in cases of malposition such as breech, posterior occiput and various other conditions, where no mention is made of disproportion and where other obstetric methods would meet every indication.

In properly selected cases of disproportion, the mortality of Caesarean Section should not exceed two or three per cent. Holmes says that any operator who has a mortality of five per cent or more should revise his indications—should use discrimination in his selection of cases.

Newell, in a recent publication, says that if we could collect the statistics from the suburban hospitals or even from the private hospitals in our larger cities, we would be compelled to admit that there is a surprisingly high mortality attendant on this operation, the true indication for which is the saving of foetal life at the expense of little or no increased risk to the mother.

In four cities of from 25,000 to 40,000 inhabitants within forty miles of Boston, Newell collected the following data:

In "A," no patient on whom Caesarean Section has been performed is known to have recovered.

In "B," the mortality as personally stated by one of the local surgeons is from sixty to seventy-five per cent.

In "C," Caesarean Section is supposed to be a universally fatal operation when done by the local surgeons.

In "D," Caesarean Section is an operation of from ten to twenty per cent. mortality in the average case, but since it has been adopted as the routine method of delivery in eclampsia the mortality has greatly increased, it being fifty per cent. in these cases.

The unpublished results in other localities would probably give similar results.

From such reports it is apparent that the operation is resorted to in cases which should be treated by other means, and the fault lies in the fact that the dangers incident to the complications are unappreciated. The underlying cause in the bad results is due to a lack of knowledge of the general practitioner and the surgeon as to what constitutes the contra-indications to the operation. I have on several occasions heard surgeons express themselves as being totally unfamiliar with modern obstetric teachings and yet they will unhesitatingly consent to do Caesarean Section under conditions contrary to these well established facts.

Experience has taught us that there are well established principles which should govern the proper selection of cases for Caesarean Section or the type of operation to do under certain conditions, and when these principles are adhered to the results are admirable. Departure from them puts the patient in the class of doubtful surgical risks and she should be treated by other means: although the sacrifice of the child may be necessary in some cases, the saving of the maternal life fully justifies the relatively small increase in the foetal mortality.

There should be a closer co-operation between the surgeon and obstetrician in order that the patient may have the benefit of discrimination.

The principal indication for Caesarean Section has always been and still remains disproportion between the foetal head and the pelvis. Contracted pelvis is by far the most frequent cause of the disproportion. In dealing with the various types of contracted pelvis, the degree of contraction will determine the method to pursue.

For cases of absolute contraction, C. V. 7 cm. and under, Caesarean Section is always the indication and should be elective, provided the pregnancy is at or near full term. Ideal results are obtained in the elective operation upon these cases.

In the relatively contracted pelvis, C. V. 7 cm. to 8.5 cm., the tendency is to broaden the indication. Although there are some cases in this type which will terminate spontaneously or by the aid of forceps, the foetal mortality is high, craniotomy is frequently called for and, after being subjected to prolonged labor, Caesarean Section is often fatal on account of infection.

Where the head has become partially engaged or capable of engagement and very little more space is needed, the cervix dilated or dilatable, pubiotomy in selected cases will be called for where the operator is capable of the task.

If the patient be a multipara with the history of previous difficult labors, and perhaps dead babies, the operation would be clearly indicated in subsequent pregnancies in proper surroundings.

By some the induction of labor at the thirty-sixth week would have a place in this type and in the borderline cases.

BORDERLINE CASES OF CONTRACTED PELVIS.

In this type of contracted pelvis falls the large majority of abnormalities. Usually there is a minor grade of generally contracted pelvis with frequently an associated funnel-shaped type or contracted outlet. While it is true that a large majority of these cases will deliver spontaneously, from ninety to ninety-five per cent., if in proper hands, it requires the refinements of obstetrical judgment in handling them.

The course of labor is often prolonged on account of moulding of the head, especially in primipara on account of slow dilatation, while in multipara the history is often that of prolonged labor, difficult forceps operations or versions, dead babies and febrile puerperism. Too often cases are referred to the surgeon for Caesarean Section as a last resort and too often Caesareanized when craniotomy on the dying or dead child should be done.

There are many factors which enter into the probabilities in these cases of borderline pelvis that should guide us as to methods to pursue in treating them. The relative size of the foetal head, the capability of the head to mould, the estimate of the probable character of the expulsive forces, the rigidity or resistance of the resisting forces, the character of previous labors if a multipara, and finally, if in labor, the probabilities of infection.

CAESAREAN SECTION IN SUSPECT OR INFECTED CASES.

If all women were examined carefully as a routine during the course of their pregnancies, contracted pelves would be discovered and appropriate treatment outlined before the labor

set in. We would then but rarely have to deal with the suspect or infected cases.

In those cases where contracted pelvis or relative disproportion between head and pelvis exists, a careful examination under anesthesia, ten days or two weeks before the date of expected confinement should be made and, where indicated, elective section performed at or near term. Borderline cases should be given the test of labor in competent hands and the course of labor followed by abdominal and rectal examination, thus minimizing the dangers of infection and in order that abdominal delivery may be safely undertaken should it be demanded, or pubiotomy may be used in properly selected cases where the risks are also markedly diminished when handled in this manner.

The mortality in Caesarean Section is largely in these suspect cases, due to the frequent vaginal examinations, ruptured membranes, attempts at delivery, all of which increase the dangers of infection and, when delivered by the abdominal route, the peritoneal involvement incident to the infection is often followed by fatal peritonitis.

Reynolds, in 1907, in his paper, "The Superiority of the Primary Over Secondary Section," presented conclusive evidence in his study of 289 cases by twenty different operators, of the advantages of the operation in the early unhandled cases. They were classified as follows:

1. Primary sections—those performed before the beginning of labor or with the advent of labor. Of these there were eighty-two cases with one death, a mortality of 1.2 per cent.

2. Secondary sections—those performed after a certain amount of labor had demonstrated its probable unsatisfactory character, but before exhaustion had set in, and before it had become definitely established that the natural powers would fail to effect the passage of the brim. There were 158 of these with six deaths, mortality 3.8 per cent.

3. Late sections—those performed after definite arrest of the head at the brim. There were forty-nine of these cases with six deaths, mortality 12 per cent.

In an exhaustive contribution by Routh, of London, in 1911, with a study of 1,282 cases of Caesarean Section in 1910, by 100 operators living in the United Kingdom, some interesting figures upon the results in the different types of cases are reported.

In cases where attempts had been made to deliver with forceps, etc., or where repeated examinations had been made, the mortality was twenty-two out of sixty four cases—34.3 per cent.

In 166 cases where the patient was in labor and the membranes ruptured but no attempts had been made to deliver, the mortality was eighteen—10.8 per cent.

In 224 cases, where the patient was in labor with membranes unruptured, the mortality was only five—2.2 per cent.

In 245 cases not in labor, the mortality was nine—3.6 per cent.

Combining the cases with membranes unruptured with cases not in labor, there are 469 cases with a mortality of 2.9 per cent., whereas in the 230 cases with membranes ruptured or where frequent examinations or attempts at delivery had been made, the mortality was 17.3 per cent.

Thus it will be seen that the important factors in the treatment of these cases are a complete examination prior to the advent of labor, a careful and painstaking surgical technique during the course of labor refraining from internal examinations, and a proper selection of cases falling in the suspect class.

The consensus of opinion in the infected cases favors hysterectomy when the abdominal delivery is made necessary in the marked pelvic deformities.

In the relative and borderline cases, where the child is dead or where there have been frequent attempts to deliver with but small hope of the child's survival, craniotomy would be preferred by many. If there were signs of developed infection, Caesarean hysterectomy would be indicated.

Extraperitoneal section advocated by some in the suspect cases has not met with great favor. It is a more difficult and time-consuming operation to perform and the peritoneal cavity is frequently invaded by tearing during the extraction of the child. Furthermore, the extensive exposure of the pelvic connective tissue, opening up avenues for the spreading of infection, makes it a procedure of doubtful advantage over the intra-abdominal method.

As Peterson suggests, if the dangers are not real, Sellheins utero-abdominal fistula modification would not have been proposed.

CAESAREAN SECTION IN ECLAMPSIA.

Within the last few years much has been written of Caesarean Section in the treatment of eclampsia. The majority of obstetricians agree that the termination of pregnancy as early as possible is desirable. The manner in which the delivery is consummated should be governed by the duration of pregnancy, the parity of the woman, the size of the pelvis, and the condition of the soft parts.

To Caesareanize all cases of eclampsia as some would advocate has no foundation from either a pathological or clinical basis. The primary consideration in the treatment of eclampsia is the elimination of the toxins. From what sources these toxins are elaborated we are as yet in doubt.

While pregnancy itself is the primary etiological factor in eclampsia, the pathological anatomy is a disease primarily of the liver with secondary involvement of the kidney. The method of terminating the pregnancy should be the one least burdensome upon an already crippled liver and kidney function.

Emergency abdominal surgery is unsatisfactory under the best conditions. When done under such an emergency as eclampsia it is far more unsatisfactory. The post-operative distention following Caesarean Section under the most favorable circumstances, is often a distressing complication, and when done in the emergency without preliminary preparation, partial paresis of the bowel is not uncommon even in the clean cases. The bowel function under these circumstances is necessarily delayed. With this complication in eclampsia, the principal avenue of elimination not functionating, the condition is hopeless.

I know of no other parallel condition in which abdominal surgery would be selected where other methods could be utilized. I do not wish to be put on record as universally condemning Caesarean Section in eclampsia, as there are complications which will call for the operation in spite of the disease, such as pelvic contraction of minor or major degree, and full term pregnancies with elongated rigid cervix where the vaginal method would entail greater dangers than the abdominal method.

An analysis by Peterson, in 1914, of 500 cases of abdominal section for eclampsia, by 259 different operators, showed that between 1908 and 1913, there were 283 cases, with 23 deaths, or 25.79 per cent. mortality. Up to 1908 there were 198 cases with 95 deaths, or a mortality of 47.17 per cent. Peterson believes that the mortality can be lowered by care in technique, and by not using the supra-pubic route when there is a great probability that the woman has been infected from below.

In his series, there were 91 operations performed by 13 operators, each with five or more cases to his credit, where the mortality was 18.68 per cent. Excluding 15 septic or moribund cases, the mortality was 13.5 per cent.

Peterson claims that the best results in the operative treatment will follow delivery in cases in which the woman has not been infected by vaginal examinations and where there have been not over five convulsions.

In sixty cases where there had been from one to five convulsions and no attempts made to deliver from below, the mortality was 15 per cent. From 1908 to 1913, in which time 248 children were delivered by Caesarean Section in this series, excluding premature children and counting all children as living who survived one hour after delivery, there were nine deaths, a foetal mortality of 3.62 per cent. The mortality was 10.69 per cent. if the children dying the first three days after birth be counted among the deaths. From these figures it will be seen that in selected cases the maternal mortality is 15 per cent. while the foetal mortality is lower than by other methods.

The conservative methods of treating eclampsia are generally recognized as offering better results in so far as the mother is concerned.

In Broadhead's recent paper Lichtenstein is quoted as stating that Strogonow's last figures were 916 deliveries treated by the conservative method of morphin and chloral, and in these the maternal mortality was 8 per cent.

McPherson, in a recent report of the conservative treatment of eclampsia by morphine, states that at the New York Lying-In-Hospital, thirty-five cases have been treated by this method with two deaths, or 8.6 per cent; the mortality from still-births was 40 per cent. All of the patients in whom foetal heart sounds were heard on admission were delivered of living babies.

The present tendency among recent writers favors more and more the conservative methods of dealing with eclampsia.

The main points in the present day views are:

(1) To stop metabolism.

(2) To control the convulsions by morphine, chloral, veratrum or phlebotomy.

(3) To eliminate toxins.

(4) To empty the uterus as reasonably early as is consistent with maintaining the integrity of the soft parts.

Where delivery is urgent and rigidity is present, vaginal hysterectomy should be used in early pregnancies up to the seventh or eighth month. Caesarean Section should be reserved for such complications as contracted pelvis and cases of full term pregnancy, where rigidity exists and the intoxication is of such intensity that delivery by other methods would be unduly delayed.

CAESAREAN SECTION IN PLACENTA PREVIA.

If placenta previa can be managed obstetrically with a maternal mortality of three or four per cent. in the uncomplicated cases, is it justifiable to subject them to Caesarean Section?

When complicated by contracted pelvis and the pregnancy is at or near term, the section would be indicated in spite of the previa. The principal contention has been that the foetal mortality is lowered by the abdominal delivery. While this is true the maternal mortality is increased out of proportion for the number of children who survive for any length of time.

The foetal mortality in the cases treated by obstetric methods will vary according to the type of previa, from thirty-five to seventy per cent., the greater mortality being in the cases of central implantation. The causes of the mortality are prematurity, maternal blood loss and delay in delivery. It must be admitted that Caesarean Section offers better hopes for the viable children. If, however, the well-established rule of mother first be adhered to, there will be but few cases in which Caesarean Section will be called for.

In the lateral and marginal types, there should be practically no maternal mortality in properly treated cases by the obstetric methods, when the treatment is applied early. Rupture of the membranes in some cases will suffice, while in others the intraovular insertion of the hydrostatic bag effectively combats the bleeding and aids dilatation in hastening delivery.

In the central previas at full term, with rigid soft parts, the child alive and the woman a good surgical risk, Caesarean Section will be indicated and, in proper hands, will give good results. Such a condition, however, in central placenta previa, will but rarely occur, as these cases but seldom go to full term, rigidity of the cervix is uncommon, the bleeding is usually excessive before they are referred for operation, and various methods will have been used to control the bleeding before reaching the hospital, rendering the patient a probably infected one.

Other complications such as ovarian and fibroid tumors obstructing the birth canal will call for Caesarean Section, as will broken cardiac compensation, where other methods due to rigidity would prolong the labor, and also fixation of the uterus. Breech and prolapsed cord have been the indication for section by some. However, unless disproportion exists, but few would be so extremely radical as to subject a woman to abdominal delivery when in uncomplicated breech cases the maternal mortality is less than one-half of one per cent.

THE COURSE IN SUBSEQUENT PREGNANCIES FOLLOWING CAESAREAN SECTION.

The consensus of opinion in the cases of contracted pelvis is once a Caesarean Section, always a Caesarean Section. While in sections done for other complications than contracted pelvis the safe rule would be once a Caesarean always a hospital case carefully scrutinized.

The integrity of the uterine scar is an unknown quantity; the dangers of rupture are real. Present reports show that three per cent. subsequently rupture when subjected to labor. The integrity of the scar will depend upon the method of approximation, the location of the placenta infection and the rapidity of subsequent pregnancies.

Adhesions following Caesarean Section are frequent, particularly in the infected cases: fixations are not uncommon as a result, and these further complicate succeeding pregnancies.

7 South Boulevard.

IMMEDIATE PERINEAL REPAIR.*

By VIRGINIUS HARRISON, M. D., Richmond, Va.

If a surgeon should undertake to perform an operation for a condition similar to a lacerated perineum and its adjacent structures,

*Read before the Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 19-20.

without having at his command a sufficient number of assistants, the patient in a good position, a plenty of light on the field of operation, every instrument and dressing sterile, he would be considered inefficient by the patients and an outcast by his professional brethren. This is what has been and still is frequently expected of obstetricians by the people as well as the doctors. Until the latter become educated themselves and convey this knowledge to the prospective mothers, labor will be considered as a normal process, and not one that is so often pathological. If a man tore his anus every time he had a movement from his bowels, he would realize what occurs to a woman in labor, and would insist on the best care for repair.

No hospital should consider that it gives an efficient obstetrical service until it can furnish a modernly equipped delivery room, two nurses (one of whom must be surgically clean), and an intern, all to be present at the time of delivery. These should be instructed by a graduate *obstetrical* nurse as to their special duties, and when the pupil nurses are changed, the new ones should be shown what instruments and needles are used for special work. It is a waste of time and temper for a nurse to give you a threaded, long perineal needle to sew up a tear in the cervix. The complications of labor are frequently sudden, serious and unforeseen; immediate help may mean the difference between a natural recovery and morbidity for life.

A doctor often does the best he can under the conditions and with the help he has, yet he realizes that with better surroundings he could really do more for the patient. In the private home, we often find people who do not appreciate the importance of the *obstetrically trained nurse;* I do not mean an individual who is liked by the patient, and has graduated as a nurse. A *trained obstetrical nurse* is as important as a trained obstetrical doctor; the two together can beat any old "mammy who has been with mother with all her children."

So in the private home and the hospitals a good operation can be made a failure and the operation decried because of inefficient help. The nurse is expected to give the anesthetic and hold the woman's legs apart; the doctor to deliver the child, see that it breaths, deliver the placenta, thread his needles, retract the perineum, sew up the laceration, and if necessary, pull down the cervix and repair it. A complete success must be attained, or the operation is a bad one, or the operator did not know how to do the work.

I believe that perineal tears should be repaired at once, provided we can work with sufficient help, for many women will not submit to the operation later, unless there is great discomfort. If the uterus came out of the vagina, or a great deal of pain were felt, they would present themselves. I think we all have had cases that were repaired unsuccessfully and the patients have been told to return, but they delayed until some absolute necessity demanded action.

Hirst (Text-Book on Obstetrics), advises that the operation be done about the eighth day, claiming that he gets better results at this time. While this may be true, his cases are doubtless where he has full control of them, and can select his time and method; others claim equally as good results from the immediate operation. I cannot understand why he does not have more infections at this time than when the operation is done early. When we think of the thinning out of the cervix, the vagina and the vulva by the delivery of the child, and of the number of germs we are told live naturally in the glands in these localities, and they must be expressed by labor; in addition to this the lochia becomes an alkaline fluid bathing the area of late operation—a very suitable medium for the development of pathogenic germs, which we have been taught may start up a serious infection even should they get on the finger in a sterile glove, if it is introduced into the vagina.

Again the woman has a right to refuse the second administration of an anesthetic, if good results are obtained by the immediate operation. My method is to repair all lacerations at the time of labor, unless I have no help. In this event, I try to do the work within twelve to twenty-four hours, for in that time everything can be arranged. I place my sutures in first and second degree tears while I am waiting for the placenta to be delivered, for at no time do I find the vagina as free from blood as at this time, the tissues are somewhat numb, and the woman, if from under the anesthetic, requires very little to keep her quiet. *I do not tie* my sutures until the placenta is delivered and the uterus is contracted; if tied be-

fore this, the placenta tears the tissues repaired and, if hemorrhage takes place and the hand has to be introduced into the vagina, they will have to be cut and replaced. I think one mistake we make is to put in too many stitches and tie them tight so as to make a good looking perineum when the operation is finished. If we are more careful to approximate like tissues, nature will do the rest and take care of them, when the swelling takes place. In third degree tears the uterus had better be empty before repair is attempted.

I believe more morbidity is caused by a tear in the anterior vault of the vagina than a moderate tear of the perineum. These we do not see, because we do not look for them as often as we should, and they are frequently a submucous separation of the muscle.

The after care of the sutures is important for success of the operation. They should be kept clean by pouring a solution over them and not by scrubbing them off and sometimes out of the tissues. It makes very little difference what solution is used, so a sufficient quantity; plain serile water gives as good results as lysol or bi-chloride solutions. If either of these latter is used, particular attention should be called to the irritating effect on the skin if a strong solution is used in women who have much fat around the buttocks. If the stitches become infected, they should be removed immediately; otherwise the tenth to twelfth day will be proper time to extract them. In the private home, where the preparation for removal of the stitches is difficult and the light is not good, I frequently use with good results the chromicized catgut, obstetrical suture prepared by Van Horn and Sawtell. They last a sufficient time and do away with the discomfort and preparations necessary for their removal.

SUMMARY.

(1) Repair all lacerations immediately, if conditions can be obtained for efficient work.

(2) Keep stitches clean by pouring aseptic, or antiseptic if you prefer, solutions over the wound. Do not use a scrubbing brush to get them clean.

(3) Put in just enough sutures to approximate like tissues, and do not tie them too tight: better have a strong perineum than a good looking one.

DIET DURING THE PUERPERIUM.*

By M. PIERCE RUCKER, A. M., M. D., Richmond, Va.
Associate Professor in Obstetrics, Medical College of Virginia.

No branch of medicine is more influenced by custom and tradition than is obstetrics. Custom demands that a healthy woman stay in her room a month for no other reason than that she has borne a child. Of course, in the days when milk fever was the rule, few women were able to leave their rooms under the prescribed time. Now, however, thanks be to Oliver Wendell Holmes and Semmelweis, no woman should have puerperal fever, and there is no reason for such a sentence. Yet custom still exacts a month of confinement.

So it is with the treatment of our patients in other respects. In the days of our grandmothers, when having a baby was a hazardous undertaking and infection and peritonitis were the rule rather than the exception, it was necessary to literally starve the suffering woman. The occasion for such treatment has fortunately passed and yet the diet during the puerperium is on a scarcely more rational basis. Our text books have an almost stereotyped paragraph on this subject, somewhat as follows: "Formerly great restrictions were placed on the diet of a recently delivered woman, thus accounting, in part for the loss of weight that has been noted. If there is no nausea and the patient desires it, a cup of tea or a glass of warm milk may be given soon after delivery. The appetite is generally poor for a few days after delivery, but food should be given at regular intervals not too widely separated. The first day, milk, milk-toast, or if desired, dry or buttered toast, with coffee, tea, or cocoa, according to the taste of the patient, may be given. Water may be allowed as desired. On the second and third days simple soups or beef-tea, soft-boiled eggs, or stewed oysters and some simple desserts, such as wine-jelly, boiled custard, or junket. During the next few days, chicken, scraped beef or mutton in small quantities, may be given and by the end of the week a gradual return to the ordinary diet may be made." The average nurse will sandwich in four or five albumens or milk and egg drinks. And what is the result? The usual text book on obstetrics devotes three or four times the space to the

*Read before the twenty-first annual session of the Tri-State Medical Association of the Shenandoah Valley.

treatment of engorged breasts that it does to the diet for nursing mothers.

Let us for a moment consider what kind of a problem we have. We have a normal woman, resting in her bed until her uterus gets to a proper size and position. In addition, her breasts, which have been enlarging during pregnancy and preparing for their function, now begin the actual formation of milk. We know that the milk flow is largely influenced by diet, and that unless other factors, such as worry and over-work, enter in, we can largely control the formation of milk by character of the diet, especially the amount of fluid allowed. We further know that certain articles of food and also certain drugs are partly excreted in the milk, or else modify it unfavorably for the baby. This is especially true of acid fruits and vegetables with a decided flavor such as cabbage, turnips, carrots and sweet potatoes.

I am concerned in this paperette solely with the diet for the normal puerperae. The woman with nephritis, diabetis, tuberculo-is or puerperal fever, of course, demands special treatment. The fact that she has an infant is of secondary importance so far as treatment is concerned.

The old method of starving the patient for the first week is cruel and unnecessary. The newer way of forced feeding, which means forced liquids, is almost equally cruel. Under this treatment the breasts become terribly engorged and painful, necessitating expert nursing for their relief. A more sensible way, it seems to me, is to put the patient at once on general diet and then to modify it according to the behavior of the breasts. In this way the milk flow is established in a more gradual manner, without engorgement or pain. If the amount of milk proves inadequate, it is easy to increase the fluids or even to put the patient on a liquid diet, although such a procedure is rarely necessary. A routine general diet avoids the loss of weight so common in older times and the painful breasts of a few years ago. It is more pleasant for the patient, allowing her a greater variety of food and is not so constipating. An occasional enema is all that is usually required. Since we adopted this routine several years ago, none of our patients has had engorged, painful breasts. The milk flow has been more gradual in onset, but longer sustained. It has been abundant in upper-class woman. That over-abundance of milk, which is often followed by agalactia, because the baby is unable to empty the breasts, has been absent. Our only difficulty has been to get nurses to co-operate with us in giving such a diet in home cases.

2020 *Monument Avenue.*

REPORT OF CASE OF GANGRENOUS BALANITIS.*

By CLYDE F. ROSS, M. D., Richmond, Va.

In the late Summer of 1917, just before entering the military service, I had in my practice, a case of severe gangrenous balanitis and I am availing myself of this, my first opportunity, to report it. Another patient, suffering with the same malady, came under my observation during my service at the U. S. Army Base Hospital, Camp Greene, N. C., but, as I have not the clinical record on this patient, I will not be able to make a report of it.

I always feel a hesitancy in reporting any cases of this kind, because of their extreme rarity, knowing as I do that the reports can be only of scientific value. Dr. B. C. Corbus, of Chicago, was the first physician to report cases and write upon this subject in this country, as I recall, in about 1909. Since then, there have been several articles written upon Gangrenous Balanitis, otherwise known as Erosive Balanitis, or as The Fourth Venereal Disease.

My attention was called to this disease when, upon doing a dark field examination on this patient, I noticed the similarity of the micro-organisms seen in the dark field to those observed in examining smears from Vincent's angina. This disease is caused by a co-existence of a fusiform bacillus and a spirochete, just as in the case of Vincent's angina or gangrenous stomatitis. The spirochete is different from the spirochete pallida principally in its extreme mobility. They will shoot across the dark field, giving you hardly time to see them, their progress being so rapid. Any one who has seen a field of these spirochetes can no more forget their movements than they can the slow (comparatively speaking), rotating or bending twisting motion of the spirochete pallida. These micro-organisms are anaerobic and the greatest predisposing cause is a long, tight foreskin, excluding the air.

Other causes are the transference of these micro-organisms from the mouth, their normal habitat, with the fingers or through unnatural sexual relations. The report of the case follows:

C. T. B., married, male, age 47 years, American. Occupation, drayman. Referred by Dr. B. A. Henry, Anderson, S. C., August 2, 1917. Patient denies any previous venereal diseases or having had intercourse with any one except his wife during the last three months. Examination of wife at a later date revealed no signs of any diseased condition of mouth, vulva, or vagina.

History of Present Disease—Patient says that on the morning of July 31st, he noticed a small white ulcer on glans, to which he paid no or very little attention. The next day this lesion had increased in size until it was as large as a dime, when he reported to his family physician. His physician gave him some medicine and asked him to come back the next day for further observation, which was done. The physician was alarmed at the rapid progress of the disease and referred him to me, at which time the lesion was nearly the size of a quarter. I could hardly believe his story, so rapid had been the destruction of tissue.

Subjective Symptoms—Patient complained of almost unbearable pain in the end of his penis, so much so that a hypodermic of morphia had to be administered before we could proceed with the examination. Patient also complained of weakness and exhaustion.

Objective Symptoms—Examination showed a patient fairly well nourished and of normal proportion. Mucous membranes, skin and glandular systems negative except for some enlargement of his right inguinal glands. Genito-urinary examination showed a long oedematous, slightly inflamed prepuce with a very offensive, thin, profuse discharge, and more or less inflammation of the dorsal lymphatics of the penis. The prepuce was retracted with some effort and a great deal of pain and there was revealed a greyish-black gangrenous area on the glans penis about 1 cm. in diameter. There was no inflammation of the meatus urinarius or any symptoms to indicate an involvement of the urethra. Dark field examination of smear, taken from lesion, revealed a rapidly moving spirochete and a fusiform bacillus. Diagnosis not made. Patient given anodynes to relieve pain, hot antiseptic applications to be used locally, and blood taken for Wassermann. I should also add that patient had a temperature of 100° and a pulse of 82. The severity and rapidity of the lesion caused me to investigate the case very thoroughly, with the result that a tentative diagnosis of gangrenous balanitis was made pending a Wassermann report.

August 4th, patient returned, complaining of great pain, and exhaustion. Condition deemed so serious that he was immediately taken to the hospital, where his temperature registered 100.8° and pulse 96, his extreme weakness and exhaustion being his most unfavorable signs. Examination of his lesion here showed no improvement, but extension of the lesion back under skin into shaft of the penis. Treatment was changed and consisted of thorough retraction of prepuce and exposure of lesion to air as well as frequent bathing of lesion in 2% hydrogen peroxide, working on the theory that, the organisms being anaerobic, the more oxygen, the better for the patient. Patient immediately began to improve. The next day showed no extension of the lesion and in a few days nature had begun her efforts at repair by throwing off the gangrenous mass, leaving a comparatively healthy base, but not until the gangrene had extended down into the urethra, leaving a urinary fistula. The Wassermann report was negative, as were five others, at weekly intervals, taken later.

I do not mean to leave the impression, by reporting this case, that all cases of gangrenous balanitis are of this severity, for such is not the case. The case seen at Camp Greene was not as severe, although if bilateral slits in the prepuce had not been made, it may have become so. It is my impression that the most of them so resemble the chancroid that a diagnosis of chancroid is made in a number of the cases. As the clinical signs vary so, we are almost compelled to rely absolutely upon the dark field examination for the spirochete and vibrio, which are always present, to make a diagnosis. Treatment consists of plenty of oxygen and cleanliness.

501 *Professional Building.*

TREATMENT OF FRACTURES OF THE ELBOW.

By PHILIP W. BOYD, JR., M. D., Winchester, Va.

We have all seen numerous unfortunate re-

which might have been avoided had the original examination been carefully and intelligently made and followed by intelligent treatment. The larger per cent of these injuries should give perfect results if properly treated, especially in children, at which age we see the injury most often. The cardinal point in the treatment of these fractures is identical with all fractures, namely: to reduce the fracture accurately and to maintain reduction. To do this, we must first know which part of each bone is broken, and to know this it is essential to give a general anaesthetic and take a skiagraph.

If there is one point it is my desire to impress upon you, it is to always *insist* upon a general anaesthetic being given these patients when reducing the fracture, especially with children. You can palpate the joint with ease and pretty accurately determine the nature of the fracture if under surgical anaesthesia.

Next to this is the importance of X-raying all fractures. The physician who does not avail himself of this diagnostic aid is doing an injustice to the patient and himself. It is my opinion that in any suit for malpractice resulting from treating a fracture where X-ray had not been taken, the courts would hold that reasonable care had not been used in treating the fracture.

In treating a fractured bone, first outline the three bony prominences of the elbow joint, namely:—Internal condyle of humerus, olecranon of ulna and head of radius. These points normally lay in almost a straight line. By palpation you can determine fairly accurately which bone is fractured. Grasp the condyles of humerus with the thumb and finger of one hand; index finger of other hand is placed in the bend of the elbow. Make traction on fore arm and slowly flex to an acute angle, at the same time traction and lateral pressure are brought to bear on the loose fragments to correct the malpositions. The degree of flexion will depend upon the local swelling. Dust the bend of elbow with dry powder to prevent chafing. Maintain this flexion by plaster, adhesive plaster or a simple gauze roller bandage which is placed about the fore arm and arm in such a manner as to hold the elbow joint acutely flexed.

Fractures of the internal condyle, external epicondyle and T-fracture into the joint are best treated by the acutely flexed position. Transverse fracture of the shaft above the condyles is best treated by internal right angular splint for the first week or ten days, until the swelling has disappeared, then the acute flexion may be more safely employed.

If you have not seen the patient until the parts are badly swollen, it is better to put on a right angle internal splint until the swelling disappears, then acute flexion. The best splint is one made of plaster-of-Paris. After the fracture is reduced and the bandage applied, a skiagraph must be taken and, if the fragments are not in proper position, make another attempt to adjust the fracture.

It is very seldom necessary to do the open operation to reduce and maintain the fragments in position but if they do not stay reduced, you will not get a satisfactory joint without the open operation. Fracture of the olecranon is best treated by wiring or plating the fragments and then put arm in right angle position.

No fracture should be treated by the open method outside a well-equipped hospital. If this is not possible, you may attempt to hold the fragments in position by a strip of adhesive running up the inside of fore-arm above the upper fragment of olecranon and down the outside of fore-arm. Fracture of the head of the radius should be treated by the open method. All fragments of the fractured head should be removed and arm put in right angle position, unless complicated with fracture of the condyles of the humerus, then the position should be extreme flexion after the fragments of fractured head of radius have been removed.

In caring for these injuries, re-apply bandages and splints often to be sure they are efficient and that there is no undue swelling of the arm or hand or pressure upon the arm. If the internal angular splint is used, re-bandage the hand and arm each day. All apparatus must be removed once per week and inspected twice duing the week, massaging the forearm and joint and arm but do not use passive motion until the fragments begin to *stiffen* up, which is usually about the tenth or twelfth day. My results have been much better when the passive motion is delayed for ten or twelve days than when it is begun on the third or fourth, as is advocated by some. It takes at least one half hour each time the bandage is removed to properly massage the arm and joint and give the passive motion.

In doing this, keep the thumb of one hand in the fold of the elbow and support the joint with the palm and index finger. The first time motion is begun you will not be able to get full extension. By repeating this every three or four days it will soon be accomplished.

The dressings on all fractures of the elbow should be kept on for four or five weeks or longer if there is evidence that union has not taken place in that time.

One very serious complication that might arise from too tight bandaging is Volkmann's ischemic paralysis. The capillary circulation is interfered with and the muscles die leaving a cicatricial like tissue in their place, an ischemic necrosis which is usually permanent. The damage may be done in one or two days; therefore, this is another reason for frequent inspection for these injuries. Simply reducing the fracture and applying retentive apparatus does not constitute proper treatment of these conditions. They must be inspected often and each time sufficient time and care given the patient to correct any bandage that is too tight or too loose.

I have not presented anything new in this paper though, I have no doubt that each of us at this moment is recalling where we might have treated a fractured elbow with more consideration and had a different result. Therefore, it behooves us to be more careful in the future and secure good and proper results to which our patients are entitled and which we get if we anaesthetize and X-ray all of these cases and put the arm up in acute flexion.

CAUSES OF INSANITY.

By J. T. A. WRIGHT, M. D., Woodville, Pa.
First Assistant Physician, Allegheny County Hospital For Insane.
and
G. A. McCRACKEN, M. D., Pittsburgh, Pa.
Chief of Staff.

There is one very important branch of medicine which has been sadly neglected in the passing years—one may say shunned by the rank and file of the profession—and that is psychiatry: and it is only recently, since the war, that any study, research, or attention has been paid to it save by a few devoted specialists in that line. But no field offers a brighter future nor more inviting prospects for the earnest student and investigator, and already there is a new era dawning for the unfortunate and benighted ones and brighter hopes of early recovery. We say "early" advisedly for, unless recovery takes place before irreparable damage is done to the brain and psyche, the case is hopeless, and while the disease may be arrested, there is always permanent damage left, with greater or less mental impairment.

We trust that as the great amount of clinical material available is made use of in earnest research and study, and as the search-light of science displaces vague theories and ancient fanciful classifications, and the psychology of the normal is better understood, a practical, scientific and comprehensive pathology may be evolved and the treatment of mental diseases be made more successful.

As the brain is the physical medium or creator of the mind, as well as governor of the whole body and its ultimate source of power, it seems inconceivable that there can be a mental disease without some physical basis. The pathology of the future will doubtless show this and also emphasize the inter-dependence of mind and body and the effect one may have on the other.

Right here "toxaemia" looms large in the field as a pathological causative factor and deserves the most pains-taking and careful study, and, in our opinion from observation and study, will yield most brilliant results as to etiology—whether the toxaemia be exogenous or endogenous as the result of faulty metabolism, deficient secretion or excretion, enervation of certain organs, acute infections, or bacterial diseases with the resultant toxines and metabolic changes, or disharmony in the secretions of the ductless glands with the resultant erratic changes in nutrition, blood pressure, the viscosity of the blood, certain secretions, etc.

Of these glands, the more important seem to be the thyroid, pituitary, suprarenal, and the spleen, but there is much yet to be learned about the physiology of the human body. Foreign and American authorities are beginning to lay much stress on the study of the toxic causes of insanity, as well as those cases and diseases found due to metabolic or nutritional changes, as exemplified in acromegaly, myxedema and exophthalmic goitre. Among the American authorities White, of Washington, and Berkley, of Johns Hopkins, stand prominently in the forefront.

Syphilis and alcohol are credited with causing at least twenty per cent. of all cases of insanity in males, and now influenza is making

a record as a causative factor on a war-worn world!

In view of the many cases of insanity and nervous disease in the army, due to the stress of war and its attendant horrors, the Government should supply and financially encourage research institutions and hospitals along that line, as the need for a definite pathology, as a guide to treatment, is imperative.

An inherited predisposition is found in most cases of insanity (excluding those due to trauma), a mentally and bodily deficiency as it were—a lack of stamina and functional energy—and the percentage may run up to from fifty to ninety per cent. of all cases of insanity.

Evidently there must be a marked predisposition or dyscrasia in all cases of insanity caused by mental stress alone, though, of course, the prolonged deleterious action of the mind on the body will produce secretory and functional changes which are conducive to further mental deterioration and thus a vicious circle is formed. But the mere fact that the mental stress is prolonged shows a weakness of the will to throw it off, and the mind stays in a condition of semi-paralysis and impotency, with increasingly disastrous results.

Among the commoner mental diseases dementia precox and paresis offer much to research and experimental medicine, and, in the study of over a thousand cases, from all causes, the two types named above predominated by quite a large per cent. If paresis is caused solely by syphilis, it seems that some efficient method of treatment could be devised and used before the degeneration and destruction of brain and nerve tissue becomes irreparable or incapacitating.

In closing, we also find a very close relation between the gonads and certain psychoses, in both male and female. This may point to some disturbance of the internal secretions of these organs. Emasculation might have a beneficent effect in selected cases.

CO-OPERATIVE MEDICINE.

By H. H. ROBERTS, M. D., White Sulphur Springs, W. Va.

The rapid progress which has been made in medicine and surgery in the last few years has demonstrated beyond any question of doubt the importance of unity and co-operation in medicine. The old adage, "In unity there is strength," cannot be more conclusively demonstrated than in the practice of medicine.

One of the largest surgical clinics in the world has very effectively demonstrated the power and the success which is accomplished by the concentration of many medical heads, with organization and system.

Co-operative medicine will occupy the space formerly given to the individual in the practice of medicine. Perhaps in isolated locations and small districts the doctor may surround himself with a certain amount of individualism, but his individual importance will be limited, just as the crossroads country grocery or store has its limitations.

Modern business and commercial enterprise has forged ahead with such rapidity that the smaller enterprises are all but eliminated. The same rule holds good with the medical profession. If the physician believes he can remain isolated from his associates in the practice of medicine, that organization, system and co-operation in the practice of medicine is not an established fact, let him take notice that shortly he will find himself isolated and forgotten. Actual merit will always be recognized, but collective organized merit will be that which is more earnestly sought by the public. Medical men who have made special study along certain lines and who have executive ability to manage and organize will be sought as leaders of organized and co-operative medicine.

Advice from those specially trained in the various branches of medicine is being sought by the public. The medical advantages at the hospitals and centers of medicine are constantly being recognized and demanded by those seeking medical service. This is a most convincing factor that organization and co-operation in medicine is more in demand by the public. It is results which the laity demand in consulting the physician.

The organization and system of co-operative medicine has superior advantages at the spas and health resorts of America. There, with a thoroughly equipped clinical laboratory, the advantages of hygiene and sanitary environments, every facility is offered for study and care of the individual in seeking health.

The advantages of a clinical and pathological laboratory are innumerable. The advantages of the experience and knowledge of a number of specialists in all lines of medicine are indispensable. The time is fast approaching when the man, having some ailment in

which he desires to have a thorough physical examination made, will go to the centers of medicine or some hospital, where he can have the advantages of a clinical and pathological laboratory.

Possibly nothing has demonstrated the advantages of co-operation more than the systematic care of the soldier in the base hospital during the war. The soldier was surrounded by a staff of experienced medical men—experts in their line. If this was a success and an advantage to the soldier, how much greater would be the advantage to the patient in civilian life! There is no question but that the time is rapidly approaching when the medical men in every community will realize the advantages and benefits of closer association with each other in their profession.

The spas and treatment resorts of Europe have been successful and their patronage has been phenomenal. All of this has been due to the co-operation of the medical profession and the high organization and system. I do not believe there has ever been a better opportunity than the present time for the establishing of spas and health resorts in America, equipped with thoroughly up-to-date clinical pathological laboratories, surrounded by a staff of experienced physicians in this line of work.

FURTHER REPORT ON THE TREATMENT OF NON-MALIGNANT LARYNGEAL VEGETATIONS BY THE ROENTGEN RAYS.*

By ALFRED L. GRAY, M. D., Richmond, Va.

Ten years ago, at a meeting of the Southern Section of this Society, held in this city, I had the honor to present, by invitation, a preliminary report on *The Treatment of Laryngeal Papillomata in Children.*

At that time I had had under treatment two cases, both of which had been referred to me by Dr. John Dunn, after tracheotomy had been performed. Roentgen ray treatment was decided upon because the vegetations were unimproved. At the time of my report, one of these cases had entirely recovered. She remained well until November, 1911, when she died, following an operation for acute tonsillar infection. The other case, then being treated, had been reported by the laryngologist as having reached a point where he could breathe fairly well with the tracheotomy tube removed and the wound closed with the finger. The last report from this case was a newspaper clipping, under a glowing headline, giving an account of the wonderful cure effected on this patient by another physician in his city by the use of X-rays.

Since reporting these two cases, I have had the opportunity to test the efficacy of the Roentgen rays in three additional cases, the last of which, a gentleman of forty-five years, has now been free from all evidence of recurrence for nearly two years. The last examination of his larynx, made nine months ago, revealed no trace of the vegetation.

Without exception, each patient to whom I have given the treatment has been entirely relieved, as shown by laryngoscopic examination, or has so nearly recovered that the family has deemed it unnecessary to continue the treatments and a final laryngoscopic examination was not made.

In a paper presented at a meeting of the American Roentgen Ray Society at Niagara, in 1912, I attempted to offer a rationale for the results obtained, and subsequent developments in the knowledge of the physics and of biologic effects produced by the rays materially strengthen my theories. The hot cathode type of tube (Coolidge) had not then been invented and little was known of the effect of filtration to absorb the rays that injure the skin. The present less empirical and more scientific methods permit us to direct our dosage in such quantity and quality as may be desired to produce a more or less definite effect.

After my personal experience, confirmed by others, I feel fully justified in recommending that the Roentgen Rays be applied in all cases of simple papillomatous vegetations of the larynx, and I believe that benefit or complete cure may be confidently expected.

206 *Professional Building.*

*Read at meeting of the Southern Section of the American Laryngological, Rhinological and Otological Association, in Richmond, March 1, 1919.

Nineteen American women doctors from the Woman's Hospital of New York are in the Balkans, assisting the American Red Cross in its work of caring for the sick and destitute. Their work has earned the warmest commendation of the government and some of them have received decorations or been cited for conspicious service among the soldiers and refugees.

Proceedings of Societies, Etc.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

By EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 313.)

Observations on Pneumococcus Infection of Nasal Accessory Sinuses.

By CORNELIUS G. COAKLEY, M. D., New York.

One hundred and eighty-eight cases were observed. The acute ones with the history of a duration of one month or less numbered one hundred and nine. The remainder were chronic.

Pneumococci were present in forty-four per cent. of the acute cases, and in most of these they were the sole organism. In the chronic cases this organism was found in but thirteen per cent.

These results seem to warrant the inference that in acute inflammations probably half the cases might be due to auto-infection, while the other half were due to infection from some outside source.

In the chronic cases the larger number were accompained by autoinfecting organisms.

The author records a case of pneumococcus tonsillitis followed at an interval of two weeks with a pneumococcus infection of the left antrum. In the second case both antra were successively involved, one at a later period than the other, with a pneumococcus in each instance.

The third case had beginning infection in the larynx and trachea, secondarily involving his antrum, with pneumococci.

The third case had a bilateral maxillary sinuitis; there was a pure culture of the pneumococcus in both. Signs of consolidation were found at the base of the right lung next day, and antipneumococcus serum was administered, followed by a chill, rising temperature to 106°, and an immediate drop in the temperature with pneumococcus in his sputum, without any further attention to his antra, as the patient was too ill to be treated. Spontaneous recovery followed.

The writer asks what rôle the serum played in curing his maxillary sinuitis?

The fifth case recorded was the wife of the preceding patient, with pure culture of pneumococcus from the discharge, evidently following infection from her husband.

The sixth case was one of an acute otitis with pure culture of the pneumococcus arising from an infection of the same character in the left antrum.

From a study of this series of cases the writer feels justified in drawing the two following conclusions:

First.—Pneumococcus infection of the nose and its accessory sinuses does not in any large percentage of cases result in a pneumococcic infection of the lungs. Only one of our cases developed pneumonia.

Second.—There would seem to be direct evidence that in one of the cases the infection, pneumococcus I, was transferred from husband to wife.

We hold that most severe acute rhinitis attacks are the result of infection, either with autogenous or foreign bacteria or viruses. The presence of pneumococcus rhinitis and sinuitis during the stage of profuse secretion, accompanied by coughing and sneezing, must be a fruitful source of disseminating pneumococci, some of which may only invade the upper air passages of the victims of the infection, while in other patients, finding a suitable soil in the deeper air passages produce a pneumonia. There is abundant evidence that pneumonia is infective, and may not one source of infection be in these pneumococcic head colds?

DISCUSSION.

Dr. Clement F. Theisen, Albany: Some time ago I published a paper on "Pneumococcus Infection of the Nasal Cavities in Children," which was based on a small epidemic that I witnessed in the Child's Hospital in Albany. In these cases the children ranged from four to fourteen years of age, and numbered not over half a dozen. We obtained in all the cases the pneumococcus from the nasal secretion. In two cases there was a marked exophthalmos with serious ethmoidal and frontal involvement and a high temperature. These two were operated on and made good recoveries. We had one death, a child of four, with sinus involvement and a high temperature. Pneumococcic serum was adminstered without effect. In all cases there was profuse nasal discharge, very high temperature and very serious involvement of the cervi-

cal lymphatics, and the pneumococcus was obtained in pure culture from the nasal secretion.

Dr. Henry L. Swain, New Haven: I had three cases this winter in which the pneumococcus Type 1 was found, and in which the immediate onset of pneumonia necessitated calling in of an internist, in order that the necessary attention might be given to the chest condition, so that I could not follow the case for a number of days. Two of the three cases recovered and one did not. The sinus condition absolutely cleared up within three days after the administration of the pneumococcic serum in those that recovered.

Dr. Cornelius G. Coakley, New York City, closing: The only case in which was doubt of giving pneumococcic serum of Type 1 was the one in which the serum was very efficacious. I was surprised to find that from such a severe attack the patient recovered from his sinuitis without further treatment. Of course, they might have recovered without it. Some recover without treatment.

(*To be continued*).

Analyses, Selections, Etc.

Larygeal Tuberculosis Treated by Reflected Condensed Sunlight.

The topic is discussed by Mills and Forster in a paper from the Cragmor Sanatorium, Colorado Springs. They describe an improved method, used by them, which proceeds as follows: The patient sits with his back to the sun. Sunlight is first reflected from a concave metallic mirror into the patient's mouth, and upon a metallic laryngeal mirror held in proper position in the throat. A glass mirror is used to view the larynx, to observe that the light is being properly directed. Both the metallic condensing mirror and the glass observation mirror are attached by adjustable joints and supports to a frame which can be conveniently attached to the back of an ordinary chair placed in front of the patient. After a little practice most patients readily learn to observe their own larynges and to direct the light upon the lesions.

Beginning with very short exposures, usually thirty seconds daily, these are gradually increased to a maximum total of ten minutes, or, in a few cases, twenty minutes once or twice a day. A few brief case reports are given, and there is a diagrammatic sketch to illustrate the method of application. The authors have been encouraged by their results and feel that the method warrants more extended trial. (*Review of Tuberculosis*, 1919, Vol. 2, No. 11.)

Stereoroentgenograms Of The Injected Lung.

W. S. Miller publishes an important paper from the Tuberculosis Laboratory of the Johns Hopkins Medical School and Hospital, showing that by means of differential injection masses the relation of the pulmonary blood vessels to the bronchi and to each other can be demonstrated in stereoroentgenograms of the lung. This method of study also possesses the advantage of showing the relation of the bronchi and blood vessels to the lobation of the lung, a point not always brought out in corrosion preparations.

In its gross distribution the pulmonary artery is situated posterior (dorsal) and slightly lateral to the main stem bronchi while the pulmonary vein is situated anterior (ventral) and mesial to the main stem bronchi. In their ultimate distribution the branches of the pulmonary artery are closely associated with subdivisions of the bronchial tree while the branches of the pulmonary vein are situated as far as possible from the bronchi. The interweaving of the artery, bronchus, and vein which takes place along the periphery of the lung is to be differentiated from the hazy, smoky areas which are present in the early stages of tuberculosis.

Attention is called to the apparent change in the relation of the artery and vein to the bronchus due to the natural curvature of the lung.

The sharp ring-like shadows which are frequently seen in the middle third of the lung are often due to the plane which the bronchi bear to the observer, but when these shadows are broad with irregular, hazy borders, they are cast by bronchial cartilages.

Three stereos, which can be removed for study, accompany the paper and assist in bringing out the descriptive text by which they are accompanied. (*Review of Tuberculosis*, 1919, Vol. 2, No. 11.)

Book Announcements and Reviews

The Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

Surgical Treatment. A Practical Treatise on the Therapy of Surgical Diseases for the Use of Practitioners and Students of Surgery. By JAMES PETER WARBASSE, M. D., formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn, New York. In three large octavo volumes and separate Desk Index Volume. Volume III. contains 861 pages with 864 illustrations. Philadelphia. W. B. Saunders Company. 1919. Per set (three volumes and the index volume), cloth, $30 per set.

On the publication of the third volume and index, Warbasse has completed the largest undertaking in surgical authorship since Gross and Agnew presented their respective classics, and he seems to have succeeded in giving us a rational and comprehensive presentation of treatment of surgical conditions. As treatment is the ultimate aim in all surgery—and the dividing line between medicine and surgery is becoming less distinct—this work must have a wide appeal.

As surgery is always in a developmental stage, there can be no ultimate "authority," and this author is to be commended for disclaiming originality in operations and methods of treatment which, though he may have been the first to describe, are all based upon well-known surgical principles common to all surgeons.

Individual authorship with a complete system of cross-references has done away with the omissions and overlappings so frequently complained of in "systems."

On the other hand there is so much included that the author's individuality and opinion on the various subjects considered are in many cases not easily ascertained. It would have been better if the chapters on the appendix, liver and gall-bladder could have been put in volume II. with surgery of the abdomen. This would have reduced the size of Volume III., so that the general index could have been embraced in this volume instead of having a separate existence though many may prefer the detached index.

The field of reconstructive surgery has been a fruitful one in recent years—particularly during the late war. Warbasse's chapter on plastic and cosmetic surgery is especially fine—with its 200 illustrations.

He suggests there are opportunities for development in cineplastic amputations.

In the appendix we are given an abstract of surgical achievements of 1918, so we may safely say Warbasse is strictly up-to-date and is worth a place in any doctor's library.

H.

"Procaine for Local Anesthesia in Surgery, The Specialties and Operative Dentistry"

Is the title of a new illustrated booklet by Dr. F. H. McMechan, editor of the American Yearbook of Anesthesia and Analgesia. It is an editorial abstract of a series of articles on local anesthesia and presents in simple, boiled down, yet detailed style, the advantages of Procaine; the various solutions and combinations used and how to prepare them from marketed products; indications and contraindications, and the technic for its use in spinal, sacral, venous, ophthalmic, rhinolaryngologic and dental anesthesia.

It may be had *free* by any physician, hospital superintendent, surgeon or dentist sending his request to The Abbott Laboratories, 4757 Ravenswood Ave., Chicago, Ill.

The U. S. Civil Service Commission,

Washington, D. C., announces open competitive examinations on June 3, for assistant epidemiologist (male), at $2,000 to $2,500 a year; for assistant to medical director in the U. S. Employees' Compensation Commission, men only, at $2,000 a year, and for consulting physiologist (male), in the Bureau of Mines, Washington, at $10 per diem when employed.

On June 4 and July 9, there will be examinations for medical interne at St. Elizabeth's Hospital, Washington, for both men and women, at $75 a month and maintenance.

On June 18, open competitive examinations will be held for men only, to fill vacancies for physicians in the Panama Canal Service, at salaries ranging from $150 a month upon entrance, to $200, $225, $250, $275 and $300 upon promotion, and to higher rates for special positions.

If interested in any of these positions, further information may be obtained by application to above Commission.

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Editorial.

The Cause of Pain in Duodenal and Gastric Ulcer.

Pain in the stomach is intimately bound up with the physiology of the stomach and the character of its nerve supply. About twelve years ago, Lennander, of Upsala, Sweden, in a very scholarly paper (Journal A. M. A., Vol. 47, 1907, pp. 836-840), set forth his views on the nerve supply of the abdominal viscera. He believed that the stomach was without nerves capable of conducting the sensation of pain, but that pain was produced by stretching the mesenteric attachments of the stomach or intestine and that all painful sensations of the abdominal viscera originated in the abdominal wall or in the parietal peritoneum. His work, however, seems to have been disproved by that of Kast and Meltzer (Medical Record, N. Y., 1906, Vol. 70, p. 1017), which was confirmed by Ritter (Central. f. Chir., 1908, XXXV., 609). It may be accepted now that the stomach is supplied with nerves capable of conducting pain, though they are not abundant. These fibres apparently terminate in the muscular coat of the stomach and do not penetrate to the mucous membrane, so the gastric mucosa is insensitive to pain.

Cannon & Washburn (American Journal of Physiology, 1912, Vol. 29, p. 441), have demonstrated that the hunger pains, or so-called pangs of hunger, in a healthy stomach are due to excessive peristaltic contraction of the stomach wall. These violent contractions, in all probability, stimulate the terminals of the pain nerves within the muscular coat of the stomach. Ginsburg, Tumpowsky, and Hamburger (Journal A. M. A., Sept. 30, 1916, Vol. 67, pp. 990-994), have shown that the pains of clock-like regularity which come on after meals in patients suffering with duodenal or gastric ulcer are due to the pessure of peristalsis on the pain nerves of the stomach which are rendered abnormally sensitive by the inflammation of the ulcer. It was formerly tanght that the pain was caused by hyperacid gastric juice which, acting upon the ulcer, produced in some way the sensation of pain. It is now known that this is not correct and that the character of the gastric juice has nothing to do with pain except so far as it may incite or inhibit peristalsis. A hyperacid gastric juice tends to incite peristalsis and, when this acidity is lessened by the intake of food or soda, peristalsis is also thereby diminished.

The situation, so far as hunger pains or pains from duodenal or gastric ulcer are concerned, may be compared with the production of pain in the sensory nerves in the hand. Normally, moderate pressure on the hand does not produce pain, but the pressure may be so severe as to cause pain. This can be compared with hunger pains in a normal stomach when the excessively strong peristaltic contraction produces pain in the stomach because of the great pressure on the nerves in the muscular coat. If, however, there is a boil on the hand, the slightest touch, that under ordinary circumstances would not incite pain, may cause severe pain, because the sensory nerves have been made abnormally sensitive by the presence of inflammation. This condition may be compared with pain in ulcer of the stomach or duodenum when the sensory nerve fibres of the stomach are rendered abnormally sensitive by the inflammation of the ulcer and the pressure of peristalis that under ordinary conditions would produce no sensation causes marked pain. The strongest peristaltic waves usually begin about two hours after the intake of food—which accounts for the clock-like regularity of the pain.

The beneficial action of a gastro-enterostomy in ulcer of the stomach or duodenum seems to be merely relief of pain. Instead of being a drainage operation or a short-circuiting operation, it appears to act solely by facilitating the emptying of the stomach and in this manner lessening the peristalsis that causes pain.

J. Shelton Horsley.

GOOD ROADS IN VIRGINIA.

Every doctor in this State is vitally interested in the good-roads-movement. For ten years now, this subject has been written of and spoken about. Some work has been done but in a more or less inadequate way. Much money has been spent, but nobody is satisfied with the great "mud-tax" that citizens of Virginia pay annually.

No class of citizens are affected more directly by the wretched roads of Virginia, at certain periods of the year, than physicians. Much of the doctor's life-time is spent upon the roads. By day and by night he is going about administering to suffering humanity. Bad roads try his soul and weary his body and render him mentally harassed and physically unfit. Good roads, over which in some comfort he can easily and safely travel day or night, make for better service to the sick and at less cost in body and nerves.

Judging from newspaper comment, it seems that there is division and difference of view as to the wisdom of calling an extra session of the Legislature in order to get the Federal money for this great reconstructive work in this old commonwealth. Is it not a job big enough for which to call a Legislature into extraordinary session? Have there not been enough discussion, and resolutions, and addresses? Has the time to act not come? Why should people of Maryland, North Carolina, West Virginia and Georgia have either the actual permanent roads in operation or plans in execution for securing them, while Virginians continue to "talk" good roads and to pay "the self-imposed mud-tax?" Is it not worth sixty-five thousand dollars to any state to get itself started in a work of the sort? Surely it is worth it to find out whether or not the present representatives of the people intend to really get to work on a plan for giving this state permanently built roads.

The physicians of this state are interested. Each county has its representatives, and the physicians of each county know them. Let the doctors make known their wishes on this vitally important question to the members of the Legislature and urge action. There is no more urgent need. Does this question not vitally affect school-life of children, social and business life of the people and the comfort and health of this generation and those to follow? Let the extra session be called for this job. It is big enough to justify the expense.

If Georgia sixty million, if North Carolina twenty-five million, if West Virginia fifty million for good and permanent roads, why not Virginia!

News of M. R. C. Officers.

Dr. J. M. Holloway, Port Royal, who went overseas with the American troops last August, has been promoted to the rank of captain. Before leaving this country, Dr. Holloway was stationed at Camp Johnson, near Jacksonville, Fla.

Major E. Howe Miller, Danville, landed in Boston April 18, and was sent to Camp Devens to receive his discharge.

Capt. J. Gordon Boisseau, of this city, but now serving in France, has been promoted to the rank of major, according to information received here in April.

Major Walter J. Otis, formerly of this city, has returned from France and has resumed his position as assistant physician on the staff of McLean Hospital, Waverley, Mass. While abroad, Major Otis was on duty at the Special Hospital for War Neuroses at La Fauche, which was Base Hospital No. 117, after which he was transferred for service to Base Hospital No. 214, at Savenay, the Neuro-Psychiatric Base of the American Expeditionary Forces.

Dr. P. E. Tucker, Buckingham, who has been serving overseas, recently landed at Newport News, and was sent to Camp Lee to receive his discharge.

The following members of Base Hospital No. 45 are among those who reached this country the last of April or first of May, and have resumed their practices in this city: Lt. Col. J. Garnett Nelson, Major E. Guy Hopkins, Major A. L. Herring, Capt. Carrington Williams and Capt. R. C. Fravel.

Capt. F. C. Pratt, also of Base Hospital unit No. 45, has likewise received his discharge and resumed his practice in Fredericksburg.

A detachment of Base Hospital unit No. 41, formed at the University of Virginia, landed at Newport News, the latter part of April and were sent to Camp Lee to receive discharges. Col. W. H. Goodwin, of the University, was in charge of the unit and Col. Julian M. Ca-

bell, of Washington, a regular army man, was in charge of the enlisted men.

Dr. Richard T. Arnest, Hague, Va., has been reported as rendering conspicuous service in his line of work and has been promoted from lieutenant to captain.

Lt. C. E. Dyer, who recently received his discharge, has resumed his practice in Pulaski.

Dr. William H. Craig received his discharge from Camp Wadsworth the latter part of April and has taken up his work in this city.

Lt. A. C. Sinton, surgeon U. S. Navy, formerly of this city, arrived in New York the middle of April. He recently served as chief operating surgeon in the U. S. Naval Base Hospital at Brest.

Capt. Joseph T. Buxton has received his discharge and returned to his work in Newport News.

Capt. R. G. Wiatt spent a fifteen days' leave of absence at his home in this city, in April, after which he returned to Camp Jackson for his discharge.

Major George H. Musgrave, of Southampton County, has recently returned home from service in France. Announcement is made of his engagement and approaching marriage, to Miss Bessie Douglas Ridley, of Courtland. The wedding is to be in June.

Capt. Julian M. Robinson has received his discharge and resumed his practice in Danville.

Lt. R. W. Woodhouse, who has received his discharge, has returned to his home at Virginia Beach.

New West Virginia Hospital.

Drs. William R. Laird, B. F. Brugh, H. C. Skaggs and William Nelson are having erected in Montgomery, W. Va., a 100 bed private hospital, which will be opened between August 15 and September 1. It will be equipped with all modern conveniences. Montgomery is in the heart of a rich coal field section and the hospital will have a thickly settled country in close radius of Montgomery, on which to draw for patients.

The Southside Virginia Medical Association

Will hold is regular meeting in Petersburg, June 10. As so many of its members have recently returned from war service, it is hoped that this will be an especially good meeting. The secretary, Dr. R. L. Raiford, Sedley, Va., will be glad to furnish any information.

Dr. W. T. Graham,

Of this city, gave an illustrated lecture on "The Restoration of Function," at the Medical College of Virginia, April 30, under the auspices of the Richmond Society of Physical Education.

Dr. Joseph Bear,

Who has been taking post-graduate work in Baltimore, Philadelphia and New York, since being released from army service, has returned to this city and taken up his work here.

Dr. T. B. Leonard,

Of this city, but now connected with the State Board of Health and the U. S. Health Service, is in charge of clinics in Virginia to aid in stamping out social diseases.

The Surgeons' Club of Richmond

Tendered a reception at University Club, May 6, to officers of Base Hospital Unit No. 45, recently returned from overseas. There were about sixty physicians and surgeons in attendance, including visitors from other parts of this State and North Carolina. Following the banquet, there was an informal meeting, at which the president, Dr. J. Shelton Horsley, presided. Among the speakers were Col. Stuart McGuire, who organized the unit; Lt. Col. J. Garnett Nelson and Capt. J. F. Geisinger.

Corner-Stone Laid for Retreat for Sick.

The corner-stone was laid May 8, of the new building for the Retreat for the Sick, on the corner of Mulberry Street and Grove Avenue, this city. The ceremonies were conducted by Temple Lodge, No. 9, Ancient Free and Accepted Masons. Preceding the exercises, there was a parade which represented practically every military and civic organization in the city.

Dr. Rosalie Slaughter-Morton,

Formerly of Lynchburg, Va., but who has for some years made her home in New York, was a recent visitor in this State and delivered talks at several places in behalf of the Serbian relief work. Dr. Slaughter-Morton has been working in Serbia as an American Surgeon, and expects shortly to return there to continue her work of mercy in that desolated country.

Married—

Dr. Garland M. Harwood, U. S. A., recently returned from France, and Miss Margaret M. Pinchbeck, of Baltimore, in this city, April 29. Upon return from their wedding trip, they expect to make their home in Richmond.

Dr. William H. Dulaney and Mrs. Emma N. Wells, both of Lynchburg, Va., April 30.

Dr. Joseph J. Roberts, Baltimore, and Miss May Brooks Clarke, of this city, May 1.

Brigadier-General Jefferson R. Kean, of the U. S. Army Medical Corps, and Miss Cornelia Knox, of Philadelphia, in France, March 24. Gen. Kean was a native of Lynchburg, Va., and is well known in this State.

Dr. R. C. Bull,

Of the U. S. A. Medical Corps, retired, has gone to Lexington, Va., to take up his duties as post surgeon and professor of biology.

Dr and Mrs. J. E. Clagett

And two sons, of Hamilton, Va., visited relatives in Winchester, the latter part of April.

Dr. George Tucker Harrison,

Of Charlottesville, Va., was elected surgeon of the John Bowie Strange Camp of Confederate Veterans, at their annual meeting, in April.

Memorial Tablet to Dr. Broaddus.

A memorial tablet to Dr. T. Nash Broaddus, who died during the influenza epidemic last fall, was unveiled April 15, at Sheltering Arms Hospital, this city. The tablet was presented by the Church Hill Medical Society (a local society of this city), of which Dr. Broaddus was a member. Dr. R. S. Faris, secretary of the Society, unveiled the tablet, and Dr. G. Chambers Woodson made the speech of presentation.

Health Officers Meet.

Twenty Virginia members of the American Public Health Association met in Richmond, April 15, pursuant to a call issued by Dr. E. C. Levy, Director of Public Welfare of this city, and discussed plans for forming a State health association and increasing the membership of the national organization. Among the various matters discussed was the question of city allowances for transportation of directors of public welfare and health officers. It developed that Norfolk allowed its director $1,850 for an automobile, and Petersburg $1,750 for the same purpose, but Richmond does not provide any method for its director of public welfare to get over the city.

Dr. William F. Mercer

Has returned to his home in this city after a visit to Rochester, Minn., where he went to attend clinics by the Mayo brothers.

Dr. and Mrs. William H. Higgins,

Of this city, have recently returned home after a visit to Clifton Springs, N. Y.

Dr. J. N. Applewhite,

Recently of Pope, Va., is now located at Capron.

Dr. Oscar L. Powell,

Onancock, Va., was a visitor in New York, last month.

Dr. and Mrs. Robert C. Bryan

Have returned to their home in this city, after a short visit to New York City.

Dr. and Mrs. Gordon L. Todd,

Princeton, W. Va., visited the doctor's father, at Mt. Solon, Va., in April.

Dr. and Mrs. H. Graham Stoneham,

After a stay of some time in New York City, have returned to their home in Waverly, Va.

St. Louis Gets Hospital.

U. S. General Hospital No. 40 has just been opened in St. Louis and several hundred wounded soldiers returned from France are being treated there. It has accommodations for nearly 1,000 patients, and has a staff of 40 army doctors, 100 nurses and about 200 enlisted men to care for the wounded.

Medical College of Virginia.

Commencement exercises of the College will begin June 17 instead of June 3, as in former years. This delay was occasioned by the outbreak of influenza in the Fall, at which time the junior and senior students were sent by the State Board of Health to various sections of the State to assist local physicians in checking the ravages of the disease. The graduating class will be small this year, there being only twenty-five in the senior class. The senior class of dentistry has thirty-nine members and the advanced class in pharmacy, fourteen, who hope to graduate.

Blindness and Amputations in U. S. Forces.

The bureau of war risk insurance announced last month that there were but 125 cases of total blindness and less than 4,000 amputations in the American forces engaged in the war. Not even all of the 125 cases of total blindness cited have been declared as permanent by the medical officers in charge. Denial has been authoritatively made that there were any cases in which men lost both arms and both legs. To April 1, there had been more than 500 artificial limbs furnished to disabled men under the provisions of the act of Congress.

Catawba Sanatorium Prepared to Care for More Patients.

It is announced that 100 beds have been added to the equipment of Catawba Sanatorium, and that these should permit the entrance of all tuberculous patients who have already applied for treatment. The State Department of Health is anxious that the services of the institution be utilized to full capacity. Patients at Catawba pay only $5 weekly for board and treatment.

Many Defective School Children.

The report of the executive committee of the National Physical Education Service states that 50% of the 25,000,000 boys and girls of school age in this country have physical defects and ailments which impede their normal development. A lack of proper physical education was attributed by the committee as the cause for the physical disability and a broad program of State and Federal legislation for the required education was urged as a means for bringing the children to the required standard.

Dr. R. L. Payne,

Of Norfolk, Va., has been appointed chief surgeon of the Virginian Railway.

The American Medical Association

Is to hold its annual meeting in Atlantic City, June 9-13. Numerous other societies are scheduled to meet there also, just before, during or immediately after this meeting.

Dr. William F. Drewry,

Petersburg, Va., was appointed by Governor Davis as a delegate to the Southern Sociological Congress, which met in Knoxville, Tenn., May 11-14.

D. Charles U. Gravatt,

Port Royal, Va., who has represented his district in the State Senate for several terms, has announced his candidacy for re-election.

Dr. and Mrs. H. Stuart MacLean

Have returned to their home in this city, after spending a short time at Old Point Comfort, Va.

Other Countries Hard Hit by Influenza.

Official advice received from Switzerland, according to *Public Health Reports*, shows that the pandemic of influenza affected about 700,000 out of that country's population of 4,000,000, or 17.5 per cent. As in England, there were two distinct waves, one with its crest in July and the other with the crest in October. "The occurrence of these waves in practically all parts of the world where the pandemic prevailed is most puzzling. It is difficult to conceive of any external, i. e., environmental, influence acting so uniformly throughout the world, and that the virus should everywhere show these peculiar variations in infectivity and virulence is certainly most remarkable.

In South Africa, over 40 per cent. of its population was affected with influenza in the four months during which the epidemic raged there. The mortality rate was high, especially in Cape Province, where out of every thousand of population there were 33.5 deaths from influenza and its complications. In South Africa persons in the third and fourth decades were particularly susceptible to attack by the disease, and the death rate was also greater in these age groups. Here also there was a high mortality among pregnant women and the disease resulted in miscarriages in a large number of instances.

Noth Carolina Medical Meetings.

At the annual meeting of the *Medical Society of the State of North Carolina*, at Pinehurst, April 15, 16 and 17, under the presidency of Dr. Cyrus Thompson, Jacksonville, it was decided to hold the next meeting at Charlotte, and the following officers were elected: President, Dr. Carl V. Reynolds, Asheville; vice-presidents, Drs. Herbert Walker, Elizabeth City; F. S. Whitaker, Kinston, and Thos. Fox, Franklinville, and secretary-treasurer, Dr. Benj. K. Hays, Oxford.

The North Carolina State Health Officers held their annual meeting at Pinehurst on April 14, under the presidency of Dr. J. Rufus

McCracken, Waynesville. Dr. Everett F. Long, Lexington, was elected president; Dr. Carl V. Reynolds, Asheville, vice-president, and Dr. Geo. M. Cooper, Raleigh, was re-elected secretary-treasurer.

At the annual meeting of the *North Carolina State Hospital Association*, in Pinehurst, April 6, Dr. J. F. Highsmith, Fayetteville, presiding, an earnest appeal was made for the standardization of the hospitals and their training schools. Dr. John P. Munroe, Charlotte, was elected president for the ensuing year; Drs. J. T. Burrus, High Point, and E. T. Dickinson, Wilson, vice-presidents, and Dr. John Q. Myers, Charlotte, secretary-treasurer.

Health Pagent in Danville.

May the second was celebrated in Danville, Va., as "Better Health Day" and was the occasion for a remarkable parade and pageant. Over 4,000 men, women and children marched in the parade to the place where the open-air playlet was to be staged. The children were gaily dressed and the floats in the parede were attractively decorated and carried placards and banners emphasizing preventive measures for the protection of the public health and calling attention to the duty of protecting children from disease and ill health. After the play had been presented, short addresses on health subjects were made by people well-qualified to speak along this line.

To Dr. R. W. Garnett, the city health officer, is due the credit for the inception and, to some degree, the carrying out of the clever scheme. The entertainment was enthusiastically received and aroused much interest.

To Our Readers:

The Co-operative Medical Advertising Bureau, of 535 North Dearborn Street, Chicago, the advertising representative of the *Virginia Medical Monthly*, in the general advertising field, maintains a Service Department to answer inquiries from you about pharmaceuticals, surgical instruments and other manufactured products, which you may need in your home, office, sanitarium or hospital. This service is absolutely free, and we invite you to use it. The Bureau is equipped with catalognes and price lists of manufacturers, and can supply you information by return mail.

For Sale—One Bausch and Lomb microscope with two objectives, A and B. In perfect condition. Price fifty dollars. Write Dr. J. E. Copeland, Round Hill, Va.—(Adv.)

For Sale—For price of property, the best country location in the State; 12-room house, 8-room hospital, and three acres of land, in a good town of 500 inhabitants. Farming country surrounding; collections 90%. Did $10,000 business last year and this could be doubled or more by having an assistant and doing all your own surgery. Hospital established 6 years. Address "Southwest Virginia," care this journal.—(Adv.)

Obituary Record.

Dr. John A. Robinson,

Of Norfolk, Va., died suddenly at his home in that city, April 15, about 60 years of age. He was a native of Chesterfield County, this State and studied medicine at the University of Maryland, from which he graduated in 1883. Dr. Robinson was identified with the State and several other medical societies. His widow and two daughters survive him.

Dr. Edward Poral Turner,

Of Isle of Wight County, Va., died suddenly of heart trouble at the home of his daughter, in this city, May 2. He was born in Chesterfield County, this State, fifty-seven years ago, and, upon completing his academic education, studied medicine at the University of Maryland, from which he received his diploma in 1885. He had practiced medicine in Richmond, Hampton and Isle of Wight County. Dr. Turner was secretary of the Grand Lodge of Odd Fellows of Virginia and was also prominent in Masonic circles. His widow and several children survive him.

Miss Jane A. Delano,

Who died April 15, at Base Hospital No. 8, Sauvigny, France, was one of the foremost figures of the nursing world. She graduated from Bellevue Hospital, New York, in 1886, and two years later rendered her first patriotic service to her country by volunteering to nurse yellow fever victims in Jacksonville, Fla. Since then, she has held many prominent positions. It was under her direction that 30,000 nurses were recruited through the American Red Cross for service in the army and navy, after the United States entered the war. During this war, she served the American Red Cross from first to last without compensation, as a full-time volunteer.

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EXPERIENCES AT AN EVACUATION HOSPITAL IN FRANCE.

By STUART McGUIRE, M. D., Richmond, Va.

When Base Hospital No. 45 arrived at Autun, orders were found directing Baughman and me to leave the organization and proceed at once to the Chatean Thierry front and report for duty at Evacnation Hospital No. 7. We took the first train and reached Coulommiers the following afternoon. There were no vehicles at the station and we were told that the hospital was two or three kilometers distant. The proper thing for us to have done was to phone and request that an ambulance be sent for us, but we were too new at the game to know this military custom. While we stood in the rain hesitating what to do a car driven by a French soldier came up the road and we hailed him. As soon as we made him understand where we wanted to go he made us understand he would be glad to take us. It is a question whether or not any speed laws existed at that time and place but if one did we certainly broke it. We shot through the village, rushed up a long steep hill, turned into a gateway and halted abruptly in front of an old chatean that had been converted into a military hospital. The exterior of the building reminded us of George Cole Scott's residence near Richmond. In front were terraces leading down to what was once a beautiful garden. In the rear was a magnificient body of woods through which ran an avenue, the branches of the trees meeting over it to form a vaulted arch. The flower beds were trampled, the roads were cut deep with ruts and the grounds everywhere were ankle deep in mud. Many tents had been erected in the open spaces around the house and in the woods on both sides of the avenue. A stream of ambulances was coming and going, and wet and mud splashed stretcher bearers were plodding to and fro carrying litters on which lay silent figures.

We climbed the slippery steps and entered a muddy hall-way. On the right was the Adjutant's Office. We presented our credentials and asked for news from the battle field which from the sounds of the guns was evidently not far distant. While we talked, in walked Don Peters, or as he must now be designated Major Peters, owing to the dignity of his position as the Chief Surgeon of the Hospital.

He gave us a warm, if rather profane, welcome and carefully inquired where we had spent the previous night and if we had slept well. The reason of his solicitude was apparent when, after looking at his watch and consulting a schedule, he directed us to report at six o'clock in the operating tent for the night shift.

An orderly took our hand baggage and lead the way to a large tent in which we were to have our quarters. There was no flooring and the ground was wet and sodden. One end was occupied by a counter on which were some cigarettes and chewing tobacco, and behind which was seated a very bored and indifferent representative of the Y. M. C. A., who smoked a pipe and bemoaned his luck at having such an assignment.

The other end of the tent was filled with cots, most of which contained a sleeper. There were many flies and the air was damp and foul. We did not tarry long but went out to investigate our new surroundings.

Under a shed just outside the rear entrance of the chatean was a steam engine which was puffing away at its task of driving a dynamo that evidently furnished current for the X-ray plant and electric lights for the grounds and buildings. On the first floor of the chatean were located the various executive offices, an operating room and the X-ray department. Upstairs were the laboratory and sleeping

quarters for the regular officers of the organization. In the basement was the kitchen, and near it was the mess hall under a fly tent pitched in the yard. Here food was procurable at almost any hour. And here we first saw the American Nurse in her new environment and in her new uniform. We had last seen her at Camp Lee dressed in white, with an attractive cap and dainty shoes and hose. It was hard to recognize her as she sat on a bench and ate from a plank table, her head covered with an oil skin hat, her feet encased in rubber boots and her body clothed in a scant, ill-fitting dress of gray material that was unstarched and clung from dampness to her figure. Surely those in America who were responsible for her costume designed to send her handicapped to the front. In the days that were to follow, however, we found that these nurses were worthy members of the Sisterhood, for they worked faithfully and efficiently, endured fatigue and hardships cheerfully, and when opportunity offered for social relaxation proved pleasant and agreeable companions.

At six o'clock we reported at the operating tent. It was about twenty feet wide, forty feet long, had a wooden floor and was lighted by electricity. There were ten surgical tables placed side by side in a row down the center. At the foot of the tables was a board shelf extending the length of the tent for instruments and surgical dressings. On the opposite side were small tables for the surgeons to wash and disinfect their hands. Each table contained three basins, the center one for bichloride solution and the two on the end for soap and water. On either side of the tables were large galvanized iron (G. I.) cans, one for clean and the other for waste water. There were no operating gowns, caps or masks. The surgeon removed his blouse, put on a rubber apron and rolled up his sleeves. With a canteen cup he filled a basin with clean water from the can to the right and after scrubbing his hands he emptied the waste water into the can to the left. He then soaked in the bichloride solution and put on rubber gloves. These were not changed between different operations unless torn, but simply washed and rinsed in antiseptic solution while still on the hands.

A surgical team consisted of a surgeon, an assistant, an anesthetist, two nurses and two orderlies. Each team had charge of two surgical tables.

When Baughman and I entered the tent the day shift was just leaving and the night shift coming on duty. We were assigned to tables Nos. 3 and 4. Two bright faced nurses were arranging instruments, ligatures and dressings on the shelf which was covered with a freshly sterilized sheet. While we were preparing for our night's work, we were told that our nurses had just been released after two weeks' confinement in their tent as punishment for the infraction of some regulation, and taking advantage of this information to open conversation we were soon on quite an intimate footing. Before morning, however, the sights we saw and the work we did sobered us too much for joking. There were several hundred wounded waiting to be operated on and the number was hourly increasing by the arrival of ambulances from the front. Most of the pre-operative patients were in the receiving tents, but some lay in the woods unprotected from the rain except by the blankets that covered them. A detail of stretcher bearers formed a constantly moving line, carrying men first to the X-ray department to be skiagraphed, then to the surgical tent to be operated on, and then to the ward tents to be treated until opportunity offered to evacuate them to some hospital in the rear.

There was no time or were there facilities to undress and bathe patients before bringing them into the surgical tent and they were usually placed on the table fully dressed and still covered with mud and dirt from the battle field. While the surgeon, assistant and nurses were operating on a patient at one table, the orderlies were preparing another patient at the second table. They exposed the wounded area by removing or cutting away the clothing and then shaved the skin and painted it with iodine. Before the surgeon finished the operation he was doing, the anesthetist switched to the other table and by the time the surgeon was free the second case was prepared and under ether. Just before the surgeon finished an operation he would shout "Scribe" and a sergeant would come with a tablet to record the patient's name, number, rank and organization and to take down the details of the operation which had been performed as dictated by the surgeon. Everything was

done without confusion and without waste of time.

The attitude of the wounded men to their condition and to the surgical ordeal ahead of them was interesting. They were all so tired and exhausted that nothing really mattered. In fact an injury was a piece of good luck if it brought relief from exertion and exposure. They were thankful they had not been killed and grateful at the prospect of food and warmth and rest. They asked no questions as to the necessity, character or danger of the operation ahead of them, neither did they complain of the long time they often had to wait before their turn came. This was partly due to the military discipline to which they had been subjected and partly to a confidence that everything possible under the circumstances was being done for them. Most of them fell asleep while lying on the table waiting for the surgeon. A few smoked cigarettes and looked around them with an incurious gaze. They rarely volunteered a remark but would usually answer questions briefly, intelligently and respectfully. When asked about the Germans they were very bitter in the denouncement of their use of hand grenades and machine guns after they had surrendered, and did not hesitate to say that they killed German prisoners whenever they had the opportunity. One boy said he had gotten three, and when he was asked how he knew he had killed three he turned his head and smiled wearily and said "Because I stuck them."

Most of the wounded men had souvenirs tied up in handkerchiefs and one had a pair of field glasses strapped to his wrist which he was very much afraid would be stolen from him during the operation. He explained he would like to keep them because he had to kill an officer to get them.

There was the frequently expressed conviction of the superiority of the American Doughboy and perfect confidence in the ultimate outcome of the war. The men tried to suppress all evidence of suffering, minimized the extent of their injuries and did not ask when they would be able to return home but when it was probable they would be sent back to their command. Behind this brave front, however, there were occasionally incidents which showed that some of the men realized the result of multilating injuries. One young boy who had his right hand blown off laughed and joked with the orderlies while he watched them prepare his arm for amputation, but when he was etherized and no longer able to control the expressions of his feelings he prayed to die because he could no longer work and would be a burden and not a support to his poor mother.

The night wore on. We stopped for a few moments and went to the kitchen for something to eat. It was a tired pale faced crew who saw the dawn.

When we were relieved by the day shift we all went to breakfast. As we came out of the mess tent we found an evacuation of patients in progress and stopped to watch it. Wounded men able to stand transportation were being brought out on litters and loaded into ambulances to be hauled to the railway station over a mile distant where a hospital train was waiting to take them to the rear. Certain classes of cases such as head and abdominal injuries were held, but most of the other patients were sent out within a few hours after being operated on. It was still raining and the mud was fearful. Litter bearers slipped and sometimes fell, ambulances skidded and stalled and occasionally traffic was blocked and it seemed that hopeless jam was inevitable. But the men and drivers were experienced and skillful and at the last moment everything would right itself.

As we walked back to our quarters to get some sleep I heard Baughman give an exclamation of surprise. I looked at him and found his eyes glued on what we afterwards learned was technically known as a salvage dump. It was a mass of clothing and equipment removed from wounded soldiers that made a heap as large as a hay-rick. There were shoes and underwear, trousers and blouses, overcoats and helmets, canteens and mess kits, rifles and side-arms, all in one sodden pile in the rain. We passed on the other side of the road to avoid the possibility of cooties and both of us knew that each of us was thinking of the lectures we had heard in the States on the subjects of property, responsibility and accountability.

One day succeeded another and still the ambulances arrived from the front with their load of wounded and others left for the railroad station with those who had been operated

on and were able to be moved to the rear. Sometimes we worked in twelve hour shifts and sometimes longer depending on the urgency of the conditions and the strength and stamina of the teams. And it rained incessantly. To make matters worse dysentery developed among the staff. This was at first thought to be due either to the food or the water but was finally concluded to be caused by pollution from flies. We continued at work however, encouraged by the news that fresh teams were on their way to relieve us.

This is not the place to try to give a technical description of war surgery. Roughly speaking the operations performed had for their objects the exposure of the tract of the missile, the removal of foreign bodies if present, and the excision of bruised and devitalized tissue. In doing this work there was little of the satisfaction a civil surgeon feels in a well executed operation. There was no special skill required and the mutilation necessarily inflicted on the patient was enough to daunt the courage of the boldest, and to make those inexperienced in this special class of cases, question the justification of the methods adopted. It was scientific butchery conducted under the rules and regulations which had been adopted for the guidance of the military surgeons by the Medical Department of the Army. There was none of the elation that comes from the demonstration of a correct diagnosis because the patient had not been studied before the operation and there was no after-feeling of triumph at the final result secured because the patient immediately passed from under observation and there was no means of knowing whether he lived or died. The single exception to the above was in noting the unfailing accuracy with which the X-ray located the size, shape, number and position of foreign bodies.

One afternoon while I was sleeping on a cot without having removed any clothes an orderly waked me and said that Col. Keller wanted to see me. I found a smiling affable, well groomed man who did not look as if he had a care in the world, although I afterwards learned he was in charge of all surgical teams in France. He evidently was not as much pleased with my appearance as I was with his for he told me that I looked ill, and that Baughman and I were to go to Paris and spend three days before we rejoined our organization. We reached that city on Saturday, which was fortunate as it was one of the two days in the week that the hotels were permitted to furnish hot water to their guests. We secured two rooms with a communicating bath. I went to bed and slept practically three days. Every time I waked I heard Baughman splashing in the tub. I don't know what else he did, but he certainly washed enough for the two of us.

UNIOVULAR TWIN WITH CONGENITAL ABSENCE OF THE RIGHT FEMUR.*

By VIRGINIUS HARRISON, M. D., Richmond, Va.

Mrs. G. W. S., age 26 years, white, primipara with past and present history negative, last menses June 28, 1918, was due to be confined April 4, 1919. She fell into labor and entered Memorial Hospital February 28, and was delivered of a male child weighing three pounds and thirteen ounces at 8:40 P. M.; at 9:10 P. M., another male child was delivered, weighing three pounds and six and a half ounces. At 9:25 P. M., the placenta was expressed to control a very free hemmorrhage. Pituitrin and ergotole were freely used.

In examining the membranes I could find but one chorion and one amnion, in other words these children were in one sac. Being of the same sex "nature did not have to protect their morals." The placenta was carefully examined for any groove that would show fusion of two placentae, but none was found. The two umbilical cords came off about an inch apart, and there was anastomosis of the blood vessels. The children looked very much alike, were of the same sex and smaller than usual.

All these conditions point to the fact that they developed from one egg, called homologous or monochorionic twins, which is not of frequent occurrence. This means, I believe, that they are not frequently recognized. DeLee (Text-*Obstetrics*) says, "twins from one ovum are smaller than those from two, and the difference in weight is not so great; they also have a higher mortality and are often deformed" *** "Uniovular twins are rare."

Williams (Text-*Obstetrics*) says, "In rare instances a single amnion is found. This condition was noted in forty-four cases collected

*Read before the Richmond Academy of Medicine and Surgery, April 22, 1919.

from literature by Holzapfel, is not primary, but results from perforation of the partition wall between the two original amniotic cavities."

In uniovular twins we may have one heart stronger than the other; the stronger heart appropriates more blood from the placenta, and thereby grows stronger at the expense of the weaker, which grows still weaker and atrophies, causing a condition called acardia. In uniovular twins it is absolutely essential that

the cord be tied at the birth of the first child, to save the second from bleeding to death.

Both children seemed to be in good condition, but baby No. 2 was found to have a short right thigh, so short in fact that the right knee appeared to articulate with the ilium. The right leg was freely movable at the knee joint. The left leg and thigh appeared normal. There were no other deformities noted.

I exhibit to you a picture of the result of the X-ray examination, and you will note that the femur on the right side is not present, and that the fibula is a very small affair as compared with the left side. Baby No. 1 seemed to be in perfect developmental condition. Both were improving in weight when they left for another city when a month old. I have not heard from them and think I would have done so had they not continued to improve.

The causes of such deformities do not seem to be known, and if the child lives to maturity the application of an artificial limb will be his only help.

401 *North Allen Avenue.*

INFECTIONS OF THE NOSE AND THROAT AS PRIMARY FOCI FOR SECONDARY INFECTIONS.*

By KARL S. BLACKWELL, A. M., M. D., Richmond, Va.

In taking up this subject of focal infections, we must naturally consider the following: the faucial, pharyngeal and lingual tonsils, and the maxillary, frontal, ethmoidal and sphenoidal sinuses. If time permitted, I should like to take up each one of these fully and show as far as possible what has been found out in regard to the part they play in producing infections; but as this is not possible I have decided to confine my remarks entirely to one source, which as a type is conceded the most frequent focus from which systemic infections arise,—that is the faucial tonsils.

This subject is far from being a new one, for as far back as 1789 Eyerlen of Christiana considered the relation of tonsillitis to rheumatism as clinically evident. During the century following, nothing can be found in regard to this subject, and although ever since 1900 much clinical evidence has been brought forward by hundreds of observers, still it has been only within the past five or six years that a sufficient amount of definite scientific proof has been collected to establish the fact beyond any doubt that certain systemic infections arise through the entrance into the blood or lymph streams of organisms, which have come from the tonsillar crypts, either with or without primary lesions in the tonsils themselves.

Some of the infections which are attributed to the tonsils as primary foci are the following: acute or chronic arthritis, endocarditis, pericarditis, chorea, nephritis, neuritis, osteomyelitis, appendicitis, peritonitis, pulmonary gangrene, infectious jaundice, cervical adenitis, and chronic toxemia without localized lesions other than those in the tonsils themselves. The clinical evidence in most of these is sufficient to justify the belief that these dis-

*Read before the Richmond Academy of Medicine and Surgery, at a joint meeting held with the Dental Academy.

eases are of an infectious character, secondary to a primary focus, and that this focus may lie within the tonsils. And though in some of these diseases a bacteriological evidence is not absolutely conclusive, still we may say that in addition to the clinical evidence, one of the most convincing proofs is often derived from the postoperative results of a complete enucleation of the tonsils.

The tonsils, from their position, are constantly exposed to infection from the air, food and secretions from the mouth and the accessory sinuses; and also from their location they can easily pour out into the various parts of the body these poisons by means of the repiratory, alimentary, circulatory and lymphatic systems. Let us consider for a minute the structure of the tonsil so that we can better understand why this organ, which has been supposed by many to act as a barrier against bacterial invasion, especially in the earlier years, should now be considered a perfect cesspool for germs, which seemingly can pass through it without any trouble and go where they choose into the various parts of the body.

The tonsils situated between the faucial pillars consist of lymphoid tissue surrounding about fifteen or twenty deep and often tortuous depressions, called crypts, the inner or exposed surface of the tonsil being covered with mucous membrane, while the outer or hidden surface is covered by a fibrous capsule. Clinically, the crypts seem to be the source of the greatest amount of trouble as they often become filled with food, tissue debris and bacteria: and furthermore, they lend themselves well to the retention and keeping active the various germs which may become entrenched within them.

Practically all of the crypts have pockets in them and in many cases the blind ends of the crypts are in close relation with the capsule. The crypts which open into the supratonsillar fossa at the top of the tonsil are not only at the disadvantage of having to drain up-hill, but the superior wall of this fossa often closes down quite tightly on the opening of the crypts thus preventing ventilation or drainage. Practically the same condition exists with those which empty anteriorly under the fold called the plicatonsillaris. The general law of physiological-pathology is here again illustrated, that any mechanical obstruction to the drainage of any secreting cavity tends to result in a local morbid process and in toxic or infectious manifestations in remote parts of the body. The epithelium of the crypts is very thin and offers very little mechanical resistance to the entrance of bacteria into the parenchyma of the tonsil, and in fact the conditions are at times ideal for the invasion of bacteria or the absorption of the toxic products of their growth. As long as the epithelium of the crypt remains in a normal state of health an equilibrium between immunity and infection is maintained; but when these crypts become mechanically closed by the afore-mentioned folds or concretions a warfare between the germs and the epithelium occurs, the germs throwing out a toxin for the purpose of impairing the tonicity of the epithelium; while the epithelium throws out a poisonous bacteriolytic ferment for protection against the germs. If the battle is a long one the epithelium may give away and the infectious host then penetrates the epithelial barrier and enters the deep tissues of the tonsil, and from there into the system by means of the blood or the lymphatics. The lymphatics of the tonsils, which are different from lymphatics of other glands in that they have their origin in the tonsil, and do not pass through them, drain into the so-called tonsillar gland of the deep cervical chain situated under the sterno-cleido-mastoid muscle: and then they go to the thoracic glands and finally to the thoracic duct. Much valuable information can often be gained from a study of these deep cervical glands as to the focus from which the infection arose.

The more we study these cases the more we realize how difficult it is at times to speak with absolute certainty as to whether or not the tonsil is the cause of the systemic infection. Of course there are many tonsils which require only the most superficial examination to make you feel that they should be enucleated, especially if you can get a clear history of repeated attacks of tonsillitis, quinsy or other throat trouble. Perhaps the most condemned tonsil in the past has been the hypertrophied one, and in fact for years this was considered the only one which we ever suspected of doing any harm. We now know that there is no very sharp line of demarkation between a normal

and hypertrophied tonsil, hypertrophy *per se* being rather a physiological than pathological process. We generally get our idea of the size of a tonsil from the relation it bears to the plane of the pillars. Unless the tonsil is sufficiently large as to produce symptoms of pressure on neighboring structures, obstruction to breathing, thickening of speech, or ear symptoms, we should not condemn a tonsil simply because it is hypertrophied.

The tonsil of all others which gives us the most trouble is the buried one, and at times all we can see is a small piece of tonsillar tissue just large enough to contain one or two crypts, which contain some toxic material, but perhaps locally are giving no apparent trouble. Deep cryptic retention or chronic abscess formation may exist for years near the capsule and in these cases we often can condemn the tonsil only by the process of exclusion. It is in this last class of cases that the closest co-operation is needed, for it is only by this means that we will be able to ferret out the cause of the trouble. The teeth, gums, the accessory sinuses, the ears, the gastro-intestinal tract, the genito-urinary tract have all to be looked into and excluded.

A meeting such as the one to-night is of great value to us all, as it will help to give us a better understanding of the work that is being done by one in another field. Being ignorant except in a very general way of just what information the other person can throw on the subject we are so apt to lay too much stress on the particular field over which we are supposed to reign supreme, and not to weigh sufficiently the evidence brought from some other source.

501 *E. Franklin Street.*

SYPHILIS AT THE U. S. ARMY BASE HOSPITAL, CAMP GREENE, CHARLOTTE, N. C.

By CLYDE F. ROSS, M. D., Richmond, Va.
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and
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In presenting this series of cases of syphilis cared for by the Genito-Urinary and Dermatological Service at the U. S. Army Base Hospital, Camp Greene, N. C., we realize very fully the many shortcomings of this presentation. From November 1, 1917, to December 1, 1918, there were cared for in the Hospital 458 patients, while there were 323 cases of latent syphilis sent in from the Camp for treatment, making a total of 781 patients treated. To these 781 patients, 2,797 doses of arsphenamine and 1,228 injections of mercury salicylate were administered, the average dose of arsphenamine being .547 Gm.

It was the policy of the Service at all times to keep in the Hospital and treat all those patients having active manifestations of the disease until they were cured. For sometime it was the policy of the Camp Surgeon to have all anti-syphilitic treatment administered at the Base Hospital, but owing to the distance of the Hospital from the Camp it was later decided to open a Venereal Infirmary in the Camp, at which all latent syphilitics and chronic gonorrhoeas were treated.

It was the intention of the Chief of the Service at the Base Hospital to give a course of six doses of arsphenamine and twelve injections of mercury, each administered at weekly intervals, then after a period of one month or six weeks without treatment, have a Wassermann test made. If this plan could have been carried out we would have been able to report the result of the treatment, but under the later ruling of the Camp Surgeon, when the treatment was divided and the Chief of the Service at the Base Hospital had nothing to do with the pateints after they left the Hospital, it was impossible to follow the patients and the results of the treatment. On the other hand, the Chief of the Venereal Infirmary many have outlined a course of treatment different from the one outlined at the Hospital.

The 323 cases of latent syphilis treated at the Base Hospital from the Camp, were sent in by the Regimental Surgeons with a Syphilitic Register showing that they had had treatment previously or else the serum reaction justified their beginning treatment.

Of the 458 cases cared for in the Hospital, eleven of them were latent syphilitics who were in the Hospital for other diseases, gave a history of syphilis and positive Wassermann and took treatment while there. Of the 447 cases of active syphilis, 189 were primary, 240 secondary, 14 tertiary and four cerebro-spinal. The few cases of tertiary syphilis differ greatly in proportion from what is seen in civil life due, of course, to the ages of the patients we

were treating. There are not enough of these from whom to draw any conclusions, so they will not be discussed further. There were more than four cases of cerebro-spinal syphilis seen, but these were referred to the Neurologist on the Medical Service and, if treated at all, were treated there, but as a rule these men were discharged without any treatment, unless it was some intravenous arsphenamine. There were also treated for the Gastro-enterologist, a number of cases of syphilis of the stomach, the result of which we have no record.

During the administration of these 2,797 doses of arsphenamine, in which nearly all of the arsenical preparations furnished by the Government were used, we learned that there should be definite indications before the drug is used, for it cannot be said that its administration is without danger. In this series we had all the reactions, including one death, that one reads about in the current literature. As to the cause of these reactions, we do not think there is any one cause that will apply to seventy-five per cent of the reactions. We are inclined to the belief that the greatest proportion is due to anaphylaxis, a number to the condition of the gastro-intestinal tract, and still a number to the mental condition of the patients. It was our pleasure to prepare the solution in the most approved fashion that could be obtained at that time. In the early life of the Hospital, when we had none or few facilities, we will admit we used at times sterile tap water, and we must confess that our reactions were no greater than when we used doubly distilled sterile water. The most frequent mistake we find in the preparation of the solution is that we are more liable to give a too acid solution than a too alkaline one.

PRIMARY SYPHILIS.

If syphilis is to be efficiently treated, the treatment should be begun during the primary stage, and not only during the primary stage but before the Wassermann reaction has become positive. This is the ideal which we are coming more and more to obtain. In this series of 189 cases of primary syphilis cared for in the Hospital, we have complete histories on 172. Of this 172 patients, twenty-three or thirteen and one half per cent were treated ideally; that is, diagnosis was made, confirmed by positive spirochete, and treatment begun before the Wassermann became positive. As the value of early diagnosis becomes more and more impressed on the profession and the laity, more of these cases will be treated in this manner. We do not think anyone doubts that syphilis can be cured if treatment is begun before the Wassermann reaction becomes positive, but many syphilographers doubt its being cured after this stage is reached.

The diagnosis of the primary stage of syphilis is harder and gives more trouble than the other stages of syphilis. There are so many ulcers and lesions of the genitals with which syphilis can be confused, and the clinical features of the chancre are so very variable that the making of an early diagnosis is at times a task. There are lesions which an experienced man recognizes at once as syphilis, and for which he does not hesitate to make the diagnosis and institute treatment even without the aid of the microscope, but there are others that so resemble the chancroid and other lesions of the genitals that he is compelled to rely solely on the laboratory for diagnosis.

It is our opinion that the profession is becoming more and more reliant upon the laboratory for the diagnosis of syphilis, with which we agree provided the laboratory diagnosis concurs with our clinical diagnosis, or if we are undecided we are willing to let the laboratory help us decide, but we are inclined if there is a disagreement to take our clinical diagnosis in preference to the laboratory.

Volumes have been written on the clinical features of the chancre and chancres have been given all varieties of classifications, some of which sound very prosaical while others are inclined to be poetical, whereas in reality all of the classical features of the chancre have their many exceptions. Our experience has been that the getting of an accurate history in the Army as to the period of incubation of primary syphilis is very unreliable. There are certain restrictions placed upon, and certain penalties imposed on, all those who contract venereal diseases in the Service. Soon the more intelligent ones learn to concoct a story to suit their particular case so as to evade these impositions, and those not so intelligent, mostly negroes, can give you no definite history, so that we learned to pay very little attention to the period of incubation in forming an opinion as to whether the condition had the incubation period of a chancre or chancroid.

Induration is one of our main signs in making a diagnosis, but the exceptions to this sign are so numerous that it should be looked upon with suspicion. There was one class of cases we recall in particular that were manifested by an indurated fissure of the margin of the prepuce. They had nearly every characteristic of the chancre, yet the spirochete remained absent and the Wassermann negative. These conditions existed in that class of men with long tight prepuces. Upon retraction of this prepuce, the margin would crack and every successive retraction serves to increase the irritation and formation of connective tissue at this point and resultant induration. On the other hand, there is many a chancre which in the beginning (and this is the time the spirochetes are abundant and treatment should be instituted) shows no signs of induration, but just a red superficial ulcer as pliable as the skin or mucous membrane on any part of the body. In this series of cases nine per cent proved to be multiple, while in our 195 cases of chancroids thirty-four per cent were single. So the old rule, chancres are single and chancroids are multiple, has its exceptions. Our percentage of multiple chancres was a good deal lower than the average, which was due to the fact that one of two things or both had to exist before we would diagnose multiple chancres; one being the clinical features of any and every ulcer leaving no doubt in our mind as to its being a chancre, and the other the presence of the spirochete pallida. The Wassermann would not help us any in this case, for the Wassermann could become as positive from one chancre as from a number.

The diagnosis chancroid on our service was made by exclusion, as we and the laboratory men with whom we were associated believed it possible only in a very small percentage to make the diagnosis of chancroid by finding the bacillus of Ducrey. So we have diagnosed and classified all conditions chancroids which had the clinical features of chancroids and could not be classified as syphilis or other known lesions. Primary syphilis was complicated with chancroids in thirteen per cent of this series.

A suppurating inguinal adenitis in conjunction with an ulcer on the genitals does not necessarily mean that the ulcer is not luetic, for one knows that even in the bubo complicating the chancroid the cause of the suppuration is pyogenic infection and very seldom due to the bacillus of Ducrey. If so, why should not that same pyogenic organism enter the inguinal gland by way of the chancre as well as the chancroid and produce a suppurating adenitis?

Undoubtedly the most valuable indication of the presence of any syphilitic lesion is the spirochete pallida. There is always in our mind an error of doubt in the Wassermann reaction because of the many errors that might creep into the making of this reaction, and also because there might be other diseases with which the patient is suffering that would cause an erroneous conclusion, but the finding of the spirochete pallida on the dark field, by one who knows the pallida from the other forms of the spirochete, leaves no room for doubt. It is our impression that the dark field method is the most reliable for diagnosing the spirochete pallida from the other species of the spirochete, for here we see the spirochete in motion, and the motility is one of the most important, if not the most important, characteristic of the spirochete palllida. A negative finding means that very likely the lesion has been treated by antiseptics; that the lesion has been present a long time and instead of the spirochetes growing on the surface they have penetrated into the deeper layer of the chancre, or else that the lesion is not syphilitic. In case the lesion has been treated by antiseptics, it should be dressed in normal saline solution for 48 to 72 hours before we can hope to find the spirochete. In case the lesion is an old one, serum obtained from the deep layers of the ulcer should be examined. We have never been very successful in obtaining the spirochete from the inguinal glands by puncture. Very often the question will arise as to how many dark field examinations should be made, and the answer is an indefinite number or until the organisms are found. At times they will be located on the first examination, at others, not until the twelfth or the twentieth. The positive Wassermann is the last sign to appear in primary syphilis. This will become positive at varying intervals. We have gotten positive Wassermanns three days after the appearance of the lesions, taking the patient's word for the time of appearance of the chancre.

We would hardly like to say an ulcer was positively not syphilitic, unless there were no secondaries and the Wassermann was not positive for a period of three months. The Wassermann should be performed at least once every week, and better twice. It was always our rontine to confirm one positive Wassermann by another in case our clinical symptoms were very doubtful. We should never lose sight of the fact when we get a positive Wassermann that the patient may have latent syphilis and that the symptoms are not those of syphilis but of some other disease which exists at the same time as the latent syphilis. We have been forced on a number of occasions to make a diagnosis of chancroids and latent syphilis when the history was one of having had syphilis before and very likely having had treatment, but the clinical signs were those of chancroids and the examination for spirochetes was not positive.

The average length of time spent in the Hospital by these primary syphilitics, which comprised the time consumed in making diagnosis and taking treatment until all active lesions were healed, was 22.4 days: the number of doses of arsphenamine three, and injections of mercury two. The uncomplicated cases stayed only twenty days in the Hospital, while those complicated with chancroids averaged 37.3 days.

The locations of the lesions were in sixty-seven per cent on the prepuce, fourteen per cent in the coronal sulcus, six per cent on the glans penis, five per cent on the shaft of the penis, four per cent on the frenum of the prepuce, two per cent in the meatus urinarius, and two per cent on the tongue. Of the latter two were musicians and evidently contracted the disease by letting infected persons use their instruments.

It has been the opinion of one of us (Ross) gained from civil life, that the negro was more easily cured of syphilis than the white man. His Wassermann will become negative sooner, stay negative longer on less treatment than the white man's. This impression was carried in the Army, and we find that 46 cases of primary syphilis, in the white man, spent an average of 28.75 days in the Hospital and took 4.2 doses of arsphenamine, whereas the 126 cases of primary syphilis in the negro, stayed in the Hospital on the average of 21.3 days and took 2.44 doses of arsphenamine.

SECONDARY SYPHILIS.

The diagnosis of secondary syphilis was made from the history (which was of great deal more value than in the primary stage because, generally speaking, no penalties could be imposed), the clinical manifestations, and the Wassermann reaction. The Wassermann reaction in this stage is, of course, of more value than in any other stage of syphilis, but we always considered it one manifestation of syphilis only, and still depended upon our clinical signs in helping arrive at a diagnosis. We might also say that in a number of cases, the dark field examination was availed of for immediate confirmation of the clinical diagnosis, which was later confirmed by the Wassermann reaction. Caution should always be exercised in the use of the dark field for the examinations of lesions of the month, because the mouth is the natural habitat of other species of spirochete. The Wassermann was positive in ninety-six per cent of our secondary syphilitics, the other four per cent were given treatment upon a diagnosis made from history and clinical manifestations, although the reaction was negative.

In the 240 cases of secondary syphilis, the mucous patch comprised fifty and one-half per cent of the clinical manifestations, the syphilides nineteen and one half per cent, adenopathy twenty-six per cent, the condylomata two and one half per cent, and alopecia one and one half per cent. The distribution of these lesions might be of interest, twenty-seven per cent of the mucous patches were on the prepuce, fifteen per cent on the glans penis, twelve per cent on the tonsils, eleven per cent on the lips, nine per cent on the tongue, eight per cent on the cheeks, four per cent on the gingiva, four per cent on the scrotum, three per cent in the pharynx, three and one half per cent on the shaft of the penis, two per cent on the fauces, and one and one half per cent on the uvula.

Fifty-five per cent of the syphilides were macular, thirty-four per cent were papular, six per cent were pustular, three per cent were annular or circinate on the face, and two per cent were erythematous.

Of the condylomata forty-four per cent were around the anus, thirty-three per cent on the prepuce, twelve per cent in the coronal sulcus, and eleven per cent on the scrotum.

Of the adenopathies, seventy-one per cent

were general while in twenty-nine per cent the inguinals alone was involved.

The average length of time spent in the Hospital by these 240 cases of secondary syphilis, which included time occupied in arriving at diagnosis and administering treatment until all active lesions had healed was 15.96 days, the average number of doses of arsphenamine was 2.5 and injections of mercury 2. The secondary lesions were more superficial and consequently healed more readily than the lesions of primary syphilis. Again the diagnosis was more easily made, and not so much time consumed in this manner.

SUMMARY.

No one sign, either laboratory or clinical, should be depended upon for the diagnosis of syphilis, but the laboratory and clinical signs should be closely examined and conclusions reached by a study of all the information available, never forgetting that the diagnosis of syphilis was made long before the advent of the Wassermann.

The ideal time to begin treatment in syphilis is before the appearance of the positive Wassermann during the primary stage. This should be our aim in our future relations to the treatment of this disease.

Nine per cent of our chancres were mutliple while thirteen per cent were of the mixed variety: that is, both chancres and chancroids were present.

Primary syphilis can be diagnosed and all active lesions healed in twenty days, with an average administration of three doses of arsphenamine and two injections of mercury.

Secondary syphilis can be diagnosed and all active lesions healed in sixteen days and with two and a half doses of arsphenamine and two injections of mercury.

The administration of arsphenamine is not without danger and it should not be administered except when indicated, which indication is the existence of syphilis, active or latent, and then only under the best conditions possible, and by one who can meet any emergency that may arise.

The negro is more amenible to treatment than the white man, as shown by the length of time spent in the Hospital by the two classes of patients.

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RETROVERSION OF THE UTERUS WITH SPECIAL REFERENCE TO ITS SURGICAL TREATMENT.*

By ARTHUR S. BRINKLEY, M. D., Richmond, Va., Associate Surgeon, St. Elizabeth's Hospital.

This paper is presented not to offer any new operation for retroversion, but to take up and discuss the anatomic and surgical principles underlying the entire subject of the treatment of this rather common condition. The uterus is very largely an intra-abdominal organ. All intra-abdominal organs are supported almost entirely by peritoneal folds. The peritoneum is supported in turn by a loose connective tissue which holds it loosely but persistently to the abdominal wall except at its upper attachments, where it is firmly fixed and blended with the diaphragm. Strictly speaking, the abdominal organs which we refer to as intraperitoneal are all extra-peritoneal in as much as every organ lies between two layers of peritoneum made as if the organ had been pushed into the peritoneal sac from outside and had become adherent to it.

New ligaments are formed during fetal development and rotation by the contact of two peritoneal surfaces which adhere, blend and become obliterated at point of contact. This may be illustrated by the rotation of the colon which goes upward and to the right and adheres to the peritoneum of the posterior abdominal wall and thereby forms the mesocolon. The spleen rotates to the left, comes in contact with the peritoneum of the posterior abdominal wall, adheres to it, obliterates the endothelial coverings and thereby the ligament of the spleen is formed and it is fixed on the left side. The omentum grows from the lower border of the stomach down over the transverse colon and adheres to it at the point of contact, its surfaces blend and we have the gastro-colic ligament or gastro-colic omentum. If the peritoneal surface of the stomach is plicated by bringing the anterior superior border and the anterior inferior border together and holding them firmly by peritoneal sutures, all of the space enclosed by this line of sutures becomes obliterated. If the omentum is sutured to the abdominal wall and held firmly, the surfaces blend and a complete partition is made across the abdomen. If the lesser omentum is plicated for a gastroptosis,

*Read at a meeting of the Junior Medical Society of Richmond, Va., December 14, 1917.

Beyea has found that the surfaces blend and the omentum or ligament is permanently shortened. The Kelly operation for suspension of the uterus proves more conclusively than anything else the certainty of the blending of peritoneal surfaces for we find that after Dr. Kelly's operation (which does not use one-twentieth the amount of peritoneum found supporting other organs of equal weight) in only a small percentage of cases does the uterus fall back and then the ligament is usually found not broken, but attenuated to a thread. This operation has probably been done more times than any other intra-peritoneal operation, with the exception of the removal of the appendix, tubes or ovaries, and with remarkable success when we consider that it first struck the vital point of treating displaced organs. Alexander unwittingly used the same principle in drawing out the round ligament and, with its covering of peritoneum which blended at the internal ring, shortening the anterior fold of the broad ligament just so much as there was of peritoneum passing through the internal ring. The operation was later spoiled by meddlers who pushed the peritoneum back off the ligament. As a result, the operation has fallen largely into disuse. The Gilliam, the Mann, the Simpson, the Baldy-Webster operations for retroversion and all the operations, which are used today and have been found to be successful, use the peritoneum of the broad ligament. Consequently, I think the formulation of the following rule is justified: "Two peritoneal surfaces brought together and held firmly in an aseptic state, adhere, blend and obliterate, and the contiguous surfaces lose their endothelial covering, becoming continuous at the point of peritoneal contact."

The uterus, however, differs from the other peritoneal organs in that it is permitted a wider range of motion because of its function: also, in that it is connected directly with the outside and therefore must be protected from extension of direct infection. Because of the necessity for extraordinary mobility, the peritoneum of the broad ligament, the principal ligament, is attached extensively before and behind to the sides of the uterus and well down near its middle between the fundus and the cervix. Thus a very extensive attachment of peritoneum supports the uterus and the large amount of loose connective tissue holding the peritoneum to the fixed wall of the pelvis gives it a wide range of mobility.

Owing to the fact that such a variety of positions must be assumed, it becomes necessary to have some other means of automatically or involuntarily poising this organ and keeping it in this position at right angles to the body. Therefore, the round ligament becomes a necessity and is, histologically, perfectly constructed for such a function as indicated by the following definition taken from Sobotta: "In addition to the broad ligament, the uterus possesses other ligaments which are to be regarded as a continuation of its musculature. The most important of these is the round ligament which is essentially a cylindrical, or slightly flattened muscular cord twelve to fifteen cm. in length, which takes origin on either side from the anterior surface of the uterus in the vicinity of the uterine extremity of the tubes, and runs at first almost horizontally, then forward and downward between the two layers of the broad ligament covered mainly by the anterior one. In the vicinity of the uterus, the ligament is thickened and consists solely of connective tissue and non-striated muscle, but in its course through the inguinal canal it usually receives fasciculi of striated fibers from the internal oblique and transversalis which are continued on it for a varying distance, frequently extending almost to the uterus but never passing externally beyond the inguinal ring." He further says: "Similar continuations of the uterine musculature are the recto-uterine which run in peritoneal folds of the same name and connect the superficial musculature of the rectum with that of the uterus. The utero-sacral ligaments are connective tissue fasciculi which accompany the similarly named folds to the region of the second and third sacral vertebrae where they fuse with the peritoneum."

Taking up the physiology, we find that a muscle fiber has no other function than that of contraction and producing motion. We also know that a muscle fiber will under no circumstances stand a continuous strain, and that a muscle is therefore totally unfitted for taking up the work of a ligament proper. Consequently, the only physiologic function for which the round ligament could be used would be for producing motion, aside from the func-

tion performed by the connective tissue, which is an extraordinary precaution to prevent the uterus from being extruded. It is therefore, very evident that the function of the round ligament must be that of automatically poising the uterus during the various positions assumed by the individual and thus preventing it from becoming a dead weight on the broad ligament.

Of the many operations advised for correction of retroversion, I believe that devised by Coffey, of Portland, Oregon, is by far the best. Certainly, the physiological and anatomical principles appeal to me more forcibly than the various other methods of procedure. A. M. Willis of Richmond, Va., advises a modification which seems to be particularly suited for milder cases. In doing the typical Coffey operation, the technic observed is as follows: Before beginning the operation proper, break up adhesions, treat adnexa, lifting the uterus, and pack a sponge back of it. This holds the fundus up in place or partially so. Then seize the round ligament about an inch and a half from uterus and with a No. 2 tanned catgut, stitch to the antero-lateral border of the uterus at the beginning of the vesico-uterine fold. Place three or four similar sutures between this point and the uterine end of the ligament. Thus a double fold of the broad ligament is brought over to the side of the uterus. Seize the ligament an inch and a half further on and bring it up to a point just close and internal to the uterine end of the round ligament and fasten with a tanned catgut suture. Place three or more interrupted sutures between this and the first suture at the vesico-uterine fold. Thus two more peritoneal or broad ligament layers are brought over to the side and front of the uterus. With a No. 1 tanned catgut continuous suture, bring a fold of peritoneum from each side over the line of interrupted sutures. This continuous suture may include as much of the peritoneum as necessary to bring it taut. Care must be taken to avoid pulling on the bladder and also to avoid including the entire thickness of the round ligament in any of the rows of sutures. In this operation, as proved by results seen afterward, all the requirements of the anatomic and surgical principles set forth have been fulfilled. The broad ligament which is the principal support of the uterus has been shortened, and the action of the round ligament has not been permanently hampered but on the contrary it has been permitted to regain its normal strength so that while the uterus is supported constantly by the broad ligament, it may also, by the restored round ligament, be poised to suit the changing positions of the body.

I have found the Willis modification of the Coffey operation to be very satisfactory. Here a bite is grasped in the round ligament on either side far enough from its attachment to the uterus to take up the slack and bring the uterus in proper position. Then the ligaments are anchored to the anterior superior surface of the fundus midway between their uterine attachments. A tanned catgut suture is used for this, long enough for a continuous suture. By making slight backward traction on the uterus, the antero-lateral attachments of the broad ligaments on both sides are plainly exposed. The folds of the broad ligaments are hereby approximated across the anterior surface of the uterus with a continuous stitch taking a good bite in the uterine musculature every time until the vesico-uterine fold is reached. There the suture is continued backward to cover in the previous row of sutures by a fold of peritoneum from each broad ligament. The suture is tied at the point of starting. I have used this operation exclusively for the past three years in all cases except those of a very marked degree, and where the ligaments were so relaxed that the slack could not be taken up by this operation. The results following this operation have been most gratifying.

INTUSSUSCEPTION.

By ORRIN K. PHLEGAR, M. D., Graham, Va.

Case I.—J. M., eight months old boy, breast-fed, was taken suddenly ill 3:00 p. m., April 25, 1919. I was called at 4:30 p. m., and found this little child in great misery at intervals of about every thirty minutes. Bowels had moved several times since the attack, no fecal matter, but a great deal of bloody mucus; temperature subnormal; pulse 96, vomiting about every thirty minutes. Child seemed normal between these attacks. Palpation revealed a small tumor in the right abdominal region, about two inches above and on a line with McBurney's point.

Diagnosis: Intussusception.

High enema of saline solution used with patient's hips elevated: no results except the passing of water, blood and mucus.

Baby taken to the Bluefield Sanitarium and a right rectus incision was made by Dr. Wade St. Clair, the ileo-cecal junction being the objective point. Part of the cecum and appendix was swallowed up by a section of the small intestine. Intussusception reduced; baby was doing well and apparently feeling fine when it left hospital on the sixth day.

Case II.—H. C., nine months old boy, breast-fed, was taken sick suddenly in the afternoon of April 28, 1919. I was called on April 29, the following morning. Found baby very restless, but not suffering any real acute pain, vomiting about every 30 minutes and bloody mucus passing from the bowel. This baby was very fleshy, hence palpation revealed nothing abnormal except the subjective symptom of tenderness.

While about to hazard a diagnosis of intussusception and scarcely believing that I would find another case within a week, the mother informed me that the baby had swallowed something while playing on the floor the day before, so this changed my opinion relative to the case. However, I used the high enema of saline solution without results except as in Case No. 1—bloody water and mucus.

This patient living a long distance from me in the mountains without roads, I advised the parents, if baby's condition was not improved by morning, to bring it to Bluefield and we would have an X-ray examination.

Upon entering the hospital an X-ray examination was made which did not show any foreign body in the intestinal canal. The patient was placed upon the operating table and a right rectus incision made by Dr. J. Francke Fox, of Bluefield Sanitarium. An intussusception was located at the ileo-cecal junction where the small intestine was acting as sheath for about four inches of the large bowel. This impaction did not fit so closely, which I presume accounted for the symptoms being less acute than in Case No. 1. Baby was doing well and looking all right six days later at the time of making this report.

Can any reader give us any late information concerning these conditions; why do they occur mostly in male children and why do they occur at all?

Proceedings of Societies, Etc.

NORFOLK COUNTY MEDICAL SOCIETY.

Monday, June 2nd, was a red letter day in the calendar of the Norfolk County Medical Society. It was the occasion of the annual election of officers, which this year was an event of more than usual interest, amply evinced by the large number of members present.

It had been rumored that for the Presidency two of the prominent members of the profession would be in nomination. Both of these are held in high esteem by the physicians of the city, and indeed of the State and National organizations. Both were well qualified to fill the office, and it has evolved that each was fully determined that the other should bear the honor.

When nominations were called, Dr. Southgate Leigh, the retiring vice-president, according to custom entitled to succeed to the chair, adroitly obtained the floor. In a speech that was a masterpiece of eloquent and graceful tribute to the character, attainments and record, both civil and military, of Dr. (Major) R. L. Williams, he placed that gentleman in nomination. So forcefully did Dr. Leigh present and press his nomination that he carried with him his own supporters, many of whom had come with a determination to place him in the chair, and made such an impression on his auditors that for the first time in the annals of the Society the presidency was conferred by a unanimous rising vote, a splendid tribute both to the unselfish action of Dr. Leigh and the high regard of the members for Dr. Williams. It was no more than fitting that a few moments later precedent was again set aside and in the same enthusiastic manner Dr. Leigh was re-elected vice-president.

There remained one other office to fill, as Dr. W. P. McDowell insisted upon being relieved of the onerous duties of Secretary-treasurer. As a further evidence of the harmony prevailing among the Norfolk doctors, the unanimous vote of the Society was cast for Dr. Lockburn B. Scott.

Well merited encomiums were pronounced upon the efficient service rendered by the retiring President, Dr. Powhatan S. Schenck, who during his term of office has been honored with the responsible position of Director of

Public Welfare of the City of Norfolk, and Dr. W. P. McDowell, who as Secretary-treasurer has been unremitting in his efforts to re-establish the affairs of the Society upon a pre-war basis. To the fidelity, wisdom and zeal of these officers is due in large measure the present satisfactory condition of the Society which suffered heavily from war conditions and other adverse circumstances.

One very marked and gratifying result of the wisdom of the retiring Executive is shown in the revival of interest in the work of the Society among the physicians of the sister City of Portsmouth. Though members of the Norfolk County Society, these gentlemen found it difficult to attend the sessions. Arrangements suggested and carried out by the Executive resulted in the holding of special sessions of the Society in Portsmouth, and these are being attended and enthusiastically supported by the resident physicians of that city.

It is safe to assert that never in the history of this old time Society has more genuine harmony prevailed among its membership, and no brighter prospect for success has been known.

THE BEDFORD COUNTY MEDICAL SOCIETY.

The Bedford County Medical Society, at its regular monthly meeting May 26, in Bedford, elected the following officers: President, Dr. E. L. Marshall, Big Island; vice-president, Dr. T. P. West, Bedford; secretary-treasurer, Dr. W. O. McCabe, Thaxton (re-elected.)

A number of clinical cases were reported by various members, after which Dr. J. A. Rucker, Bedford, read a very interesting paper on "Spanish Influenza."

W. O. McCabe, *Secretary.*

Analyses, Selections, Etc.

A Roentgenological Manual For Chest Examination.

Believing that no chest examination is complete without the help that the X-ray can give us and with the view of taking a step toward standardizing the technique of such examinations, Kennon Dunham, of Cincinnati, summarizes methods of procedure which he has found to be of most value and which he believes necessary to proper X-ray work on the chest. His purpose is to accurately describe the technique which he has selected as giving best a definite norm, with which the record of pathological densities may be compared; and, further, to point out a few proved pathological causes of certain abnormal densities. An examination should consist either of the fluoroscopic or stereoscopic method. The single plate adds practically nothing to the fluoroscope, as it has the disadvantage of not being able to show motion or to permit the examination of the chest from various angles. The stereoscopic method has the unique advantage of definitely locating the lesion with regard to its three positions in the thorax, and allows a detailed study of the character and distribution of abnormal density. With the fluoroscope the extent of the diaphragmatic excursion should always be noted. Diaphragmatic adhesions can best be studied by this method. The usual line above a pleural effusion is concave, but pleural effusion may be so encapsulated that it is held in abnormal positions, even perpendicularly along the chest wall. The line above hydro-pneumothorax, when the patient is in the upright position, is always horizontal. The bright area of decreased density above may be somewhat obscure if the lung is collapsed toward the anterior or the posterior wall rather than toward the spine. Thus the value of observing the patient from various angles is apparent. The line above a pleural effusion associated with lung tumor is usually convex. Upon change of position the line above hydro-pneumothorax moves freely; that above pleural effusion does not move, while that above pleural diffusion associated with lung tumor ant transudates moves slowly. In stereoscopic examination the shortest possible exposure giving good detail is the best. Six seconds is the maximum time allowed from the beginning of the first to the end of the second exposure. Longer exposures produce a fuzzing of the linear markings, which simulate early tuberculosis. Do not allow breathing between exposures. Should the patient be very short of breath, administer oxygen. Exposures should be made with the lungs moderately well filled. The sitting position is the position of choice, and the plate should be in front of the patient. The arms should drop with hands in the lap, elbows turned out, for this throws the scapula to either side of the

thorax. The patient should be held firmly to the plate. The author goes on to describe in detail the particular parts of the chest to which attention should be paid. He divides each side of the thorax into several parts and tells what structures are to be noted and what are their normal shadows in each part.

The characteristic tuberculosis plate marking consists of a fan-shaped density with the base of the triangle toward and near the pleura, the apex toward the hilum and connected to the hilum with a heavy trunk. If we have two or more such areas of differing densities we have a picture pathognomonic of tuberculosis, since tuberculosis is a disease of successive infections. The greatest density indicates the oldest lesion. The pathological lesion within the lung which causes this fan-shaped density on the plate is a cone with its base to the pleura and its apex toward the hilum. The density within this fan-like area varies greatly. The radiating linear markings may either be interwoven, broadened, studded, obscured by filmy cloud effect, mottled, matted together or entirely blotted out. Striking characteristics of the tuberculosis picture are the varying degree of change in the different trunk groups, in contrast to the general homogeneous change in diseases which might simulate tuberculosis, and the lack of continuity with which the trunks may be involved. Thus we may have only the vertebral and second interspace trunks of an upper lobe involved, leaving the first interspace trunk clear. Further it is very striking to note the constancy with which early or slight lesions in the adult are limited to the trunks of the upper lobes.

If the fine linear markings of a given trunk are fuzzy or are faintly obscured by a cloud effect and the fan appears to be wide open, active tuberculosis is suggested. On the other hand, if the linear markings in a limited area are sharply defined and dense and show clean-cut studding beyond the trunks and the fan is partially closed, a healed lesion is suggested. This condition is emphasized if it is accompanied with heavy, coarse interweavings which reach to or near the periphery. The heavy trunks between such areas and the hilum are usually broad and dense.

Miliary tuberculosis produces a very striking picture. The lung fields are studded with fine dots of increased density, which may be discreet or confluent. The density of these areas varies from the faintest cloud to brilliant spots produced only by calcification. This differs from the common form of tuberculosis in the fact that its roentgen plate strongly suggests, but does not definitely diagnose, tuberculosis. Anthracosis simulates the calcified variety of miliary tuberculosis. It has the same distribution of studdings, but each density is more stellate, larger, sharper and thicker. Carcinoma sometimes simulates the uncalcified tubercle. When the age, history and symptoms are considered in conjunction with the plate, there is usually little doubt as to the diagnosis.

Caseous bronchopneumonia produces a definite, heavy, flocculent density. It is not usually seen in the apices, but in the more dependent parts of the lung. Its position and appearance suggest that it is the result of aspiration. The fan may or may not be in evidence. If a small lesion near the pleura is involevd this will be walled off by heavy septa and the flocculent densities will appear just beyond a trunk of increased density. Then it will have the triangular shape of the fan, but the sticks of the fan will not be in evidence. When there is a large lesion, it is often impossible to make out from the plates the individual triangles. When such a condition exists at the base there is usually evidence of an old lesion at the apices, and frequently there is a cavity.

Besides tuberculosis the author takes up a number of other pulmonary conditions which may give more or less the same shadows and differentiates these from those produced by tuberculosis. (*American Review of Tuberculosis*, 1918, Vol. 2, No. 9.)

Medical Treatment of Biliary Affections.

Rehfuss in the Medical Clinics of North America (Philadelphia number, November 1918), under the head of diagnosis of biliary disease says:

In the diagnosis of biliary disease the internist is armed with a new and valuable procedure in the shape of duodenal intubation. In this way the bile can be studied directly as is the gastric secretion, and the various forms of chemical analysis can be applied to the material removed. In other words, we can make an examination of the bile from the standpoint of its chemical constituents, namely cholesterol, bile-pigaments, and salts, urobilin and urobilinogen, calcium content, as well as

the determination of viscosity; from the microscopic examination, the presence of mucus, pus, blood, and laminated cholesterol plates; and from the bacteriologic examination, the determination of the presence of pathogenic bacteria.

Inasmuch as all these procedures depend for their determination on an accurate method for obtaining bile, the following details are given; the patient is examined the first thing in the morning upon an empty stomach. After preliminary rinsing of the mouth with some antiseptic solution, the long fractional gastro-duodenal tube is passed, according to the ordinary technic, for seventy cm. or more. Ordinarily I pass a length of tubing sufficient to go from the mouth, externally, to the anterior superior spine of the ileum. The tube is usually passed with the aid of beef-broth or bouillion which has been sterilized by boiling. If the broth is given at the same time that the tube is swallowed the passage of the instrument is materially facilitated. Occasionally the tube will be found to enter the stomach more readily after milk is ingested, the digestion of the curds apparently favoring the passage of to tip. As soon as the tube is introduced the patient is turned on his right side with the left leg drawn up and thrown over the right in order that the pelvis be definitely rotated in that direction. The lapse of time before the tip enters the duodenum varies with every individual; in fact, there is no method by which we can predict the duration of time necessary to intervene before bile is obtained. The bile is readily recognized by its appearance, and it will be noticed that the flow is intermittent.

In obtaining bile cultures the following procedure is the one which has recommended itself to us: after the bile is obtained the patient is put in the fully recumbent position with the head directed toward the edge of the bed, the remaining two feet or more tubing is allowed to remain suspended over the side of the bed in such a way that by siphon action there will be a tendency toward a steady flow of bile. After the flow has commenced and the first part is thrown away, three culture tubes are used in the following way: the first tube is placed under the drip without allowing the tube to come in contact with the fractional tube and after the first culture of bile is obtained the second culture-tube is used in the same way, followed, in turn, by the third.

This method has its advantages and its disadvantages, which are readily apparent even upon superficial observation. The disadvantages are the following: it is difficult to maintain the sterility of the tube owing to the fact that its transit into the duodenum must necessarily lead through organs which can be only incompletely sterilized: second, the bile is not usually obtained in a pure state, being associated with the pancreatic secretion, the succus entericus, and not infrequently some of the gastric contents. This means that infection in this region can be also ascribed to a duodenitis.

On the other hand, the following points can be claimed for the method: after the initial flow of bile the material obtained is remarkably uniform, as are the resulting cultures. It therefore follows that external contamination will not give a uniform appearance in the various culture-tubes. Accidental contamination is recognized by the presence of isolated colonies and the lack of uniformity in the appearance of the three culture-tubes. A true bile infection is recognized by the fact that all three tubes have practically the same aspect and contain the same bacteria. We know of no way by which organisms coming from pancreatic secretion can be dissociated from those seen in the bile, and for diagnostic and therapeutic purposes there is no pressing need for such a differentiation. We have encountered the streptococcus and pneumococcus only infrequently; the colon bacillus however, was far more apparent. Any form of media can be used. As routine procedures we employ blood-serum, agar, and bouillon. The vaccines are made in the ordinary way. The frequency of the colon bacillus has not yet been satisfactorily explained, whether it represents a form of elimination on the part of the liver into the bile; whether its presence is due to reverse peristalsis from the small bowel, as seen in the ascending or cecal type of constipation; or whether it represents a true infection, we are not prepared to state. Certainly the presence of abundant colon colonies is not a phenomenon of normal bile, nor is their presence in the upper duodenum to be associated with perfect health.

A New Operation for Duodenal and Gastric Ulcer.

Dr. J. Shelton Horsely, Richmond, at the

A. M. A. meeting at Atlantic City, June 10-13, in the section on Obstetrics, Gynecology and Abdominal Surgery, quoted clinical statistics to show that gastro-enterostomy is not satisfactory in curing cases of duodenal and gastric ulcer and then discussed the fact that the operation is not a physiologic operation and that it merely relieved symptoms by lessening the peristalsis, for it is the peristalsis that causes pain by pressure on the sensory nerves of the stomach. He discussed Finney's pyloroplasty and Heineke-Mikulicz's, pointing out objections to these two operations. He called attention to the similarity between an ulcer in the pyloric region near the sphinteric action of the pylorus and fissure or ulcer in ano near the grasp of the sphincter ani. He described a new operation which was founded on the principle of giving physiologic rest to the pyloric end of the stomach and removing the pathology. The operation which he proposes divides the pylorus, but does not go more than an inch into the duodenum and is extended two or more inches into the stomach. The ulcer is excised or the contracting bands divided. The incision is so sutured that both ends of the sutured incision are in the healthy stomach wall. A piece of gastro-colic omentum is brought up and fastened over the line of sutures for additional security, to prevent adhesions to other structures, and to counteract the tendency of the pylorus to be drawn up high under the liver. A clinical report is given of eleven patients operated upon by this method. (*Author's Abstract.*)

The Saliva in Pellagra.

Laboratory investigations carried on by the Public Health Service at its pellagra hospital in Spartanburg, S. C., brought out some interesting data on the character of the saliva in patients suffering from pellagra.

It is well known that in pellagra the condition of the mouth, and especially of the tongue, is of considerable significance in establishing a correct diagnosis. In true pellagra the tongue is vividly red and more or less swollen. The literature also speaks of salivation as a symptom of pellagra.

The very careful quantitative studies made in these investigations showed that, though there were cases of increased salivary flow, the salivation spoken of by the patients was often apparent rather than real and was seemingly due to some inhibition of swallowing combined with a peculiar, ropy change in the saliva which made its presence in the mouth more obvious. A tendency toward a greater quantity of solids in the saliva of pellagra patients was also observed.

The investigations indicate that the diastatic power of the saliva of pellagra patients is at least as great as that of normal people. In no case, whether the flow of saliva was scanty or very copious, was the diastatic power lacking.

While the amount of mucus precipitated from saliva by acetic acid was greater for the saliva of the pellagra patients than for the controls, the increase is apparently unrelated to the severity of the symptoms, either general or oral.

The study of the sulphocyanate content of the saliva disclosed that this is much less marked in the case of pellagra patients than it is in the saliva of normal people. Since it is generally admitted that the sulphocyanate arises from the metabolism of protein and the detoxicating action of the system, whereby poisonous cyanides are converted into the relatively innocuous sulphocyanate, the investigators believe that in the pellagra patients there is both a lessened protein intake and a detoxicating power feebler than normal.

The reaction of the saliva in pellagra is somewhat more alkaline than is that of normal saliva. (*Public Health Reports, May* 16, 1919.)

Important Precautions in Administering Arsphenamine and Neoarsphenamine.

Experience has shown that the untoward results occasionally associated with the administration of arsphenamine are due in a large measure to the use of too highly concentrated solutions of the drug, to too rapid administration, and to insufficient care in rendering the solution slightly alkaline.

The reader, therefore, may be interested in studying the following instructions just issued to medical officers of the Public Health Service regarding the administration of arsphenamine and neoarsphenamine. Careful observance of the precautions here described will reduce the number of reactions from the use of these drugs.

General Directions.—The ampule, before opening, should be immersed in ninety-five per cent alcohol for fifteen minutes in order

to detect any crack or aperture not primarily recognizable. (Should such a breach be discovered, the contents of the ampule should be discarded.)

ARSPHENAMINE

(1) *Solution.*—Cold, boiled, freshly distilled water should be used in all cases except in the case of "arsenobensol" made by the Dermatological Research Laboratory, in which case hot water is required. No more solution should be prepared at one time than can be given in thirty minutes.

(2) *Neutralization and alkalinization of the above solution.*—With a graduated pipette or burette add 0.9 cc. of normal NaOH for each 0.1 gm. of the drug (i. e., 5.4 cc. for each 0.6 gm.). The alkali should be added all at once and should quickly convert the acid salt solution of arsphenamine into the alkaline salt solution, or the disodium of salt of the arsphenamine base. (The solution of arsenobenzol, which is hot, should be cooled before adding the alkali). This represents slightly more alkali than just enough to redissolve the precipitate formed by the addition of this reagent.

The alkali used should be standardized against normal acid. Normal NaOH is a four per cent solution of the c. p. product. However, if made on the basis of weight, it may be considerably less than this strength, hence the necessity for titration. It could be made up in amount sufficient for a month's use if kept in a well-stoppered bottle and exposed to the air for only a few seconds at a time when using the solution. It should be kept in a bottle that has been used for NaOH solution for some time, so that all action it causes in the glass will have occurred. Where it is impossible to have this made up at the station, it will be furnished upon request from the Hygienic Laboratory. Should the NaOH solution become cloudy or contain a precipitate, it should be discarded.

(3) *Concentration of the drug.*—It is desired to emphasize the fact that the concentration of the drug should not be greater than 0.1 gm. to 30 cc. of final solution. The practice of using concentrated solution is not only in direct conflict with the instructions on the circular, but carries a distinct hazard to the patient.

(4) *Method of injection.*—The gravity method only should be used. Where several patients are to be injected from the same solution, the container for the solution should be graduated. If not already graduated, this can be done in a few minutes by sticking on a strip of adhesive plaster and marking the graduations on this. A convenient way to do this is to have each mark represent 30 cc., with a long mark for each 180 cc.; then, if the volume is made up so that each 0.1 gm. of drug is contained in each 30 cc., the doses can be given accurately. It is a great convenience to have a glass stopcock near the glass tubing, which serves as a window just above the needle in order to control the rate of injection. If no stopcocks are at hand, the rate can be controlled by the size of the needle and the height of the column of fluid. A No. 18 or 20 B. & S. gauge is the best sized needle.

(5) *Rate of injection.*—Operators should pay particular attention to the rate of administration and in no case should it exceed 0.1 gm. of drug (30 cc. of solution) in two minutes. This point is especially emphasized because it is believed that excessive rapidity of administration accounts for more unfavorable results in the use of arsphenamine than any other one thing.

NEOARSPHENAMINE.

The principal precautions to be observed in the administration of neoarsphenamine are:

(1) Only a single ampule should be dissolved at a time. This drug must not be dissolved in bulk to be given to a series of patients.

(2) Cold water only should be used.

(3) The dilution should be not stronger than 0.1 gm. of the drug in 2 cc. of freshly distilled water.

(4) A very small needle should be used, and the time of injection of the dose should not be less than five minutes. (*Public Health Reports*, May 23, 1919.)

Home Nursing Classes Started in Tenement Quarters.

Five classes in elementary hygiene and home nursing for women are in full swing at the first Red Cross tenement headquarters opened in a four-room apartment rented by the Red Cross at 510 West 26th Street, New York City.

One class is made up of the younger women of the neighborhood, and the older women are instructed another evening. Complete equipment for teaching the course, with three beds, mattresses, bedding and a kitchen outfit, have been installed in the flat.

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Editorial.

Bronchial Asthma.

To every practitioner of medicine the subject of bronchial asthma should be interesting, not only because it is a syndrome that has long baffled medical management but also because its etilogy and mechanism in the body, along with a group of kindred conditions, such as, hay-fever, urticaria, angioneurotic oedema, and anaphylaxis, have never been satisfactorily explained. The beginning symptoms of asthma are often remote in kind from the symptoms appearing during an attack. The asthmatic patient rarely understands and seldom appreciates the significance of his experience of repeated "bad colds", or frequent "summer colds" or "easy to take cold with every changing season." Only after the genuine spasmodic attack of respiratory symptoms does he think of seeking medical aid. It is, however, in the light of the new thought on this subject that it is important for the physician to draw out in the history symptoms and experiences of the patient long before actual asthma-attack.

This is true because protein hypersensitiveness of the body appears to be at the bottom of this group of reactions. As is known, proteins are widely distributed in nature. They are known to produce in the (protein) body, by certain unknown and under yet unexplained conditions, marked anaphylactic symptoms. These proteins enter the body by four main routes: (a) inhalation, (b) ingestion, (c) absorption, (d) infection. By inhalation, the protein pollen from plants, emanations of animal dandruff and hair, and protein dust from grain, enter the respiratory tract. By ingestion certain protein (noxious) foods enter the gastro-intestinal tract. By absorption through the skin and conjunctivae certain proteins enter the body. By infection protein pathogenic bacteria enter the body as in the case of asthma originating from some focal infection. This last group is easily illustrated by the focal infections of the teeth, tonsils, nose, throat and lungs.

Walker* has recently made a study of four hundred cases of bronchial asthma with a view to unraveling this general subject as to the cause, the identification of the offending protein and the methods of prevention and treatment of asthmatic patients.

Animal Hair Protein and Food Protein Asthma.

Of the forty-eight patients who were sensitive to and treated with horse dandruff protein, Walker found sixty-three per cent were relieved of the asthma; of the four who were sensitive to and treated with cat hair protein, three were relieved of asthma; of thirty patients who were sensitive to cereal grains (wheat, corn, rice, rye) seventy-four per cent were relieved; of thirty patients who gave positive skin tests to food protein other than cereal (as potato, egg, fish, casein, chicken, beef, strawberry, spinach, peach) fifty per cent were relieved by omission from the diet of the offending protein.

Bacterial Protein Asthma.

Also, in Walker's 400 cases of asthma, twenty-eight were found sensitive to bacterial protein and treated with bacterial vaccine. The treatment consisted in the use of stock or autogenous vaccine of those bacteria to which they were sensitive. It seemed to make no difference whether the vaccines were stock or autogenous. Seven were treated with staphylococcus pyogenes aureus; others were reliev-

*Read Walker, I. C., Boston, Mass. A Clinical Study of 400 Patients with Bronchial Asthma. The Boston Medical & Surgical Journal. August, 1918, and other papers by same author.

ed by S. pyogenes aureus and albus; others by S. pyogenes aureus and streptococcus hemolyteus, etc.

Again, in a group of 150 patients who were non-sensitive asthmatics, seventy-five were treated with vaccines made from cultivating their sputum on plain agar; twenty-four were treated from vaccine made from cultivating their sputum in dextrose bouillon: and thirty-five were treated with vaccines made from cultivating their sputum both ways. Of these forty per cent were relieved and twenty per cent were improved.

Pollen Protein Asthma.

The pollen asthma cases are interesting. There are three asthmatic periods caused by pollen. In the April-May period various trees pollinate, as willow, birch, maple, pine; in the June-July period various flowers and grasses pollinate, as the rose, orchard grass, redtop and timothy and other early summer grasses: in August-September-October period. the third and most important season, a group of wild flowers and weeds pollinate, such as the ragweed, golden-rod, daisy. The ragweed, however, it is thought, is the most frequent cause of asthma, beginning or occurring during the third period and with a seasonal recrudescent history. The ragweed season of pollination extends as a rule from early part of August to the middle of October. This division of bronchial asthma in groups according to seasons, however, will not apparently explain all the pollen-asthma cases, although the patients react to pollen tests of a definite season. For instance, there are patients who have asthma more or less continuously due either to the fact that the attacks are so aggravated that asthma is not relieved before the return of pollination, or that some succeeding pollen may additionally sensitize the patient, or that a bacterial infection may prolong the asthma, switching it to bacterial protein asthma.

Etiologic Diagnosis of Bronchial Asthma.

Probably no syndrome requires more careful study in searching for the cause than does bronchial asthma. Certainly, little reasonable success can be expected in the treatment, unless the nature of the cause is discovered.

The history of the case requires diligent investigation. A distinctly seasonal hay-fever or asthmatic-patient who can tell you to a day or within a week of each annual attack, for instance, will enable the physician with reasonable certainty to classify him as a pollen protein asthmatic. Likewise, in the case of an asthmatic with a history associated with focal infection, chronic or recurrent bronchitis during winter months, and presenting signs of an inflammatory state of the mucous membrane, will give the examiner some ground for judging the case as one of bacterial protein origin. Again, in the asthmatic cases where the vocation is that of a baker, a miller, or commission merchant, one is lead to think that the asthma originates from some food protein, while certain habits of diet, as the eating of eggs, fish, potato, casein, may be the origin of the asthma. Further, the history of contact with animals that results in asthma or hay fever tends to show rather clearly the cause. It is always important to remember in all cases that there may be multiple factors at work, and, if the patient does not respond to a given treatment the other cause or causes should be discovered.

News of M. R. C. Officers.

Dr. Lewis M. Allen, Gaylord, Va., who served in the army medical corps as a captain, has been promoted to the rank of major in the reserve medical corps in recognition of his services during the war.

Major Gerald A. Ezekiel, of this city, who was connected with the 311th field artillery, landed in New York the latter part of May.

Lt. John W. Robertson has recently been enjoying a furlough with his family at Onancock, Va., before entering upon his new duties at General Hospital No. 38, East View, N.Y.

Dr. G. E. Faulkner, U. S. N., of South Boston, has recently been transferred from the Base Hospital at Ft. Oglethorpe, Ga., to Hampton.

Major M. L. Anderson, of this city, returned the latter part of May from overseas service. He was regimental surgeon with the 311th infantry.

Capt. Charles M. Edwards of this city, recently in charge of the department of physiotherapy at Camp Dodge, Iowa, has been transferred to Ft. Riley, Kansas, where he will continue in charge of this work.

Capt. Joseph H. Hiden has received his honorable discharge from the medical corps of the army and has returned to his home at Pungoteague, Va.

Lt. Raymond C. Hooker, who was stationed at Camp Dix for sometime, has received his discharge and resumed his practice in this city.

Capt. Wm. Robt. Weisiger returned to America in May after service abroad for sometime. While in France, he was slightly wounded when a German airplane dropped seven bombs and demolished an ambulance in which he was riding.

Col. Robert B. Shackelford, formerly of The Plains, Va., has been promoted to the position of division surgeon of American troops stationed at Chaumont, France.

Capt. William Branch Porter has returned to his home in this city after service overseas, and has resumed his practice.

Dr. Clarence J. D'Alton, who was connected with Ninetieth Division overseas, received his discharge last month and visited his mother in Petersburg, Va.

Capt. George V. Litchfield, Abingdon, Va., has received his discharge from the service and returned to his home.

Another Hospital Planned for Richmond.

Plans for the erection of a $75,000 hospital at the northeast corner of Broad and Thirty-sixth streets, facing Chimborazo Park, were agreed upon on May 26, at a meeting of representative professional and business men of the eastern section of this city. It was decided that a corporation should be formed with a capital of at least $85,000. Over fifty thousand dollars was subscribed at the first meeting. Tentative officers for the purpose of incorporation were agreed upon at this meeting. Drs. William H. Parker, Ramon D. Garcin and John R. Blair were elected vice-presidents.

Growing out of the discussion of the hospital project was the idea on the part of the Church Hill and Fulton men to form a business men's association. This they did, and Dr. William H. Parker was elected one of the vice-presidents of this association.

The Medical Society of Northern Va. & D. C.,

At its semi-annual meeting in Manassas, Va., in May, elected the following officers: President, Dr. S. B. Moore, Alexandria, Va; vice-presidents, Drs. H. T. A. Lemon, Washington, D. C., and James H. Ferguson, Clifton Station; recording secretary, Dr. William Thornwall Davis; corresponding secretary, Dr. Joseph D. Rogers, and treasurer, Dr. Robert S. Lamb, all of the last three named being of Washington, D. C.

Johnston-Willis Sanatorium to Have New Home.

The Johnston-Willis Sanatorium Corporation have acquired property on Kensington Avenue opposite Battle Abbey, this city, on which they plan to erect a new hospital calling for an outlay of more than a quarter of million dollars. It is expected to have the new building completed and ready for occupancy within the course of two years.

Roanoke Academy of Medicine.

Present officers of the Roanoke Academy of Medicine are Dr. W. Brownley Foster, president and Dr. R. L. Mason, secretary.

The Southside Virginia Medical Association

Postponed its meeting from the 10th to the 24th of June, owing to conflict in date with the meeting of the American Medical Association. Dr. R. L. Raiford, Sedley, is secretary.

Dr. James W. Tipton

Has moved to Dublin, Va., and taken over the work of Dr. E. L. Sutherland, who left June 1, for New York to take up post-graduate work, preparatory to specializing in eye, ear, nose and throat work.

Dr. James W. Hannabass,

Formerly of Glade Hill, Va., has located at 3418 East Broad Street, this city, for the practice of his profession.

Dr. D. A. Stanton,

High Point, N. C. has been elected mayor of that city.

Epidemic Cost $100,000.

The city of Sydney, Australia, spent $100,000 during the Spanish Influenza epidemic, recently, in dealing with distress due to unemployment because of the epidemic. Sixty-four depots were established throughout the district with officers at their heads, authorized to ex-

tend rent relief and to provide board and lodgings to those made homeless or penniless as a result of the disease.

Tuberculosis in Army.

The National Anti-Tuberculosis Association announces that there are still 6,000 men in the service being treated for tuberculosis, although 62,000 men afflicted with the disease were barred from admission into the National Army and 20,000 others, who reached camps, were discharged for the same reason.

Dr. George W. Brown,

Superintendent of the State Hospital, at Williamsburg, Va., enjoyed a trip to Georgia in May, having gone there to attend a medical convention.

On Stuart Circle Hospital Staff.

Dr. Alexander G. Brown, Jr., and Ben. H. Gray have recently been added to the staff of physicians and board of directors of Stuart Circle Hospital this city. Dr. Brown will be attached to the medical and Dr. Gray to the obstetrical department.

Dr. and Mrs. Robert C. Bryan,

Of this city, enjoyed a motor trip through the Virginia mountains and to White Sulphur Springs, W. Va., in May.

Dr. T. N. Barnett,

Of the medical staff of St. Luke's Hospital, this city, has returned from a visit to relatives near Culpeper, Va.

Beliguim Queen Made M. D.

Queen Elizabeth of Belgium has been nominated doctor of medicine by the University of Liege, in recognition of her work as a nurse throughout the war.

Dr. Henry S. Myers,

Former member of the House of Delegates from Amherst County, this State, has announced his candidacy for the State Senate from the Amherst-Nelson district.

Dr. Charles U. Gravatt,

Port Royal, Va., who has represented his district, which includes Caroline and Hanover Counties, for the last twelve years, has offered for re-election.

Maj. R. Gordon Simmons,

U. S. A., retired, was elected president of the Army, Navy and Marine Club, organized in Roanoke, Va., the middle of May.

Dr. Samuel Tilden Elliott,

Formerly of Charlotte County, but more recently of Danville, Va., had the misfortune to lose his office and effects in a fire which destroyed the Dudley Building in that city, May 23d.

Dr. Hugh H. Hill,

Locust Dale, Va., returned home last month after spending sometime in touring Florida and Cuba.

Married—

Dr. Elisha Barksdale and Miss Rose Drummond McWane, both of Lynchburg, Va., May 24th.

High Rate of Venereal Disease among Drafted Men.

According to *The Social Hygiene Bulletin*, the Southern cities showed a higher ratio of venereal disease among the drafted men than the Northern cities. Savannah, Ga., has the unenviable distinction of sending a larger proportion of drafted men with venereal diseases among the second million who went into the army than any other American city.

Dr. Edward G. Seibert,

Washington, D. C., has been elected treasurer of the Medical Society of the District of Columbia, to succeed Dr. Charles W. Franzoni, who has resigned after a service of forty-six years.

The West Virginia State Medical Association,

At is annual meeting in Clarksburg, last month, under the presidency of Dr. Robt. J. Reed, Wheeling, selected Parkersburg for the place of meeting in 1920, and elected the following officers; President, Dr. Henry R. Johnson, Fairmont; vice-presidents, Drs. Benj. F. Shuttleworth, Clarksburg, Walter E. Vest, Huntington, and Jos. L. Miller, Thomas; secretary, Dr. J. Howard Anderson, Marytown, and treasurer, Dr. Hugh G. Nicholson, Charleston, both of the latter being re-elected.

Dr. Lawrence T. Royster,

Norfolk, Va., was among those of the alumni of the University of Virginia who was initiated into the Phi Beta Kappa fraternity, at the finals of the University this month. Dr. Royster was a member of the class of '97.

Dr. William R. Rogers

Has been elected one of the municipal Commissioners of Bristol, Va., to serve under the new city manager plan of government which has just been adopted there.

New Hospital For Henry County, Va.

Mrs. Bettie Watt Hairston, widow of Major W. S. Hairston, has deeded her residence and five acres of land, two miles from Martinsville, Va., to the people of Henry County as a hospital. Dr. A. C. Lancaster, of Fayerdale, will superintend the conversion of the home into a hospital. It is to be named Watt Hairston Memorial Hospital in memory of her son, who died some years ago.

New Superintendent at St. Luke's Hospital.

Miss Martha V. Baylor, who has so efficiently served as superintendent of Sheltering Arms Hospital, this city, for several years, has been appointed superintendent of St. Luke's Hospital, Richmond, to succeed Miss Ruth Robertson, resigned.

Dr. S. C. Draper,

Pulaski, Va., left the latter part of May for a business trip to Logan and Huntington, W. Va.

Dr. May Farinholt Jones,

Of West Point, Va., has resigned the position she has held for several years as resident physician in the State Normal School at Hattiesburg, Miss., to accept the position as assistant superintendent of the Mississippi State Sanatorium at Magee, Miss.

Dr. and Mrs. Lyle Hansbrough,

Front Royal, Va., were recent visitors in Winchester, Va.

Dr. Joel Crawford,

Yale, Va., visited friends in Ashland, Va., last month.

Rockingham Memorial Hospital to be Enlarged.

It has been announced by officials of the Rockingham Memorial Hospital, at Harrisonburg, Va., that a drive for $40,000 would open on July 6th and continue for a week. The money secured will be used to build an additional wing to the hospital which is much cramped for space. The hospital was established in 1910 and has a capacity of 36 beds.

America Leads as Consumer of Drugs.

Report of the special narcotic committee, appointed by Secretary of the Treasury McAdoo to investigate the drug traffic in the United States, has been completed. It shows that the United States is the largest consumer of drugs in the world, with more than 1,000,000 addicts and more than $61,000,000 spent annually by drug users to satisfy the habit. This country is said to consume from ten to sixty times as much opium as is consumed by other countries. It is further estimated that over 237,000 persons are now receiving treatment in an effort to be cured of the drug habit. Although the greater portion of our citizens do not take a single dose of opium year after year, the annual consumption of opium in this country is estimated at thirty-three grains annually for every man, woman and child.

Dr. Greer Baughman,

Of this city, announces that he has returned from service in the American Expeditionary Forces in France, and will limit his practice to obstetrics.

Surg. Gen. Ireland Awarded British Cross.

In recognition of his services as chief surgeon of the American Expeditionary Forces and later as surgeon general of the American Army, the British government has conferred upon Surgeon General Ireland the Cross of the Companion of the Bath.

Dr. Hunter B. Spencer,

Formerly of Staunton, Va., after spending sometime in Philadelphia, has taken the office occupied by the late Dr. P. M. Strother, at 818 Church Street, Lynchburg, Va., and has opened an X-ray laboratory.

Maj. Gen. William C. Gorgas,

Former surgeon general, U. S. A., and at present head of the American Yellow Fever Commission, arrived in Panama, May 31, en route to the United States. The Commission has been investigating conditions in the northern part of South America under the auspices of the Rockefeller Foundation.

Doctors in Business Men's Association.

Drs. J. N. Clore, Madison, W. L. Early, Wolftown, and W. A. Smith, Haywood, were elected members of the executive committee, of the Business Men's Association, organized in Madison County, Virginia, last month.

Dr. W. P. Caton,

Formerly of Accotink, Va., but more recently connected with the State Board of Health, now has headquarters at Chatham, Va., in connection with his health work.

Dr. Hunter H. McGuire

Has been elected president of the Chamber of Commerce of Winchester, Va., for the ensuing year.

Dr. John D. Foltz

And family returned to their home in this city, the latter part of May, after a visit to relatives in Harrisonburg, Va.

Dr. Charles S. Webb,

Bowling Green, Va., made an address at Mt. Hermon Church, at Shumansville, June the 8th, on the occasion of the unveiling of a memorial window in honor of the late Charles A. Shuman.

Berryville To Have Hospital.

Efforts are being made to acquire the home of the late Marshall McCormick in Berryville, Va., for the establishment of a Clarke County Hospital at that place. The funds are to be raised mainly by private subscription.

Dr. A. L. Herring,

Recently returned from medical service with the army, has opened offices at 320 West Grace Street, this city.

Dr. Mary Evelyn Brydon,

Of the State Board of Health, visited Harrisonburg, Va., last month, and instructed the juniors of the Normal School there in methods of medical inspection in the schools.

Dr. and Mrs. Frank N. Mallory,

Lawrenceville, Va., were visitors in this city in May.

Dr. T. H. Valentine,

Vultare, N. C., was in Richmond, in May, having come to attend a Masonic meeting.

Dr. Brodie C. Nalle,

Charlotte, N. C., recently visited his parents in Culpeper, Va.

Typhus Fever Situation in Roumania.

The typhus fever epidemic which has claimed tens of thousands of lives in Roumania in the past two and a half years is believed to have about "burned itself out" in that country though there are sporadic outbreaks of the disease. Outbreaks of smallpox and isolated cases of cholera are, however, giving doctors and nurses little time for rest. In one hospital, American doctors found nine children dead of smallpox. The nurses, working day and night to attend the living cases, had not had time in which to remove the dead children.

The devastation of the country is such that, but for the help being given by the American Red Cross, Roumania would to-day be a nation of starving people.

Influenza in Alaska.

According to authentic cables received in this country early in June, one hundred and sixty natives at Bristol Bay and Unalaska, in Southwestern Alaska, had succumbed to influenza during the ten day previous to the report.

Belgium Lost 100,000 Children.

At the International Child Welfare Conference in Chicago, in May, one of Belgium's leading medical authorities declared that the war cost Belgium 1,000 children. There were about five hundred delegates in attendance upon the Conference, including representatives of European countries and Japan.

Promotions and New Instructions In U. Va. Faculty.

At the regular June meeting of the Board of Visitors of the University of Virginia, the following promotions and appointments were made in the School of Medicine: Adjunct professor Dr. John H. Neff was made associate professor of genito-urinary surgery; Dr Lucius G. Gage, an almnus of the school and a member of Base Hospital No. 41 recently returned from overseas was elected adjunct professor of pathology; Patton Kimbrough Pierce, Ralph, Ala., was appointed assistant in histology and embryology, and Raymond A. Vonderlehr, Richmond, Va., was appointed assistant in materia medica and pharmacology.

Army Hospitals Closing.

Army general hospitals No. 18 at Waynesville, N. C., and No. 35 at West Baden, Ind., have been officially closed. The hospital at Sewell's Point, Va., is shortly to be transferred to the U. S. Public Health Service.

Amputates Soldier's Leg With Razor.

With a razor, a spool of cotton thread and a small quantity of ether and chloroform, Miss Marie P. Kouroyen, an Aemerican Red Cross nurse, performed a life or death operation as the result of which she has come to be known as "the American angel" by the homeless and starving Greek refugees.

Born of Greek parents, Miss Kouroyen is a graduate nurse of the Massachusetts General Hospital, in Boston. Because of her knowledge of Greek, the American Red Cross sent her to Macedonia, where typhus, smallpox and cholera tread on each other's heels and where the refugees bury their dead beneath the dirt floors of their shell-shattered shacks so that the bread cards of the dead member of their family shall not be taken up.

A Greek soldier, one of whose legs had been crushed, was brought to the box car on a railroad siding in which Miss Kouroyen was living. Something had to be done for him at once. Borrowing a razor from an American Red Cross field worker, who was shaving by candle light in the box car, Miss Kouroyen anaesthetized her patient with her small supply of ether and chloroform and performed an amputation, using cotton thread to "tie off" the arteries and veins.

Despite the prophecy of a local doctor that the aged patient would not live through the night, Miss Kouroyen some time later received a visit from her patient. He had an American artificial limb made for him in the American Red Cross artificial leg factory for Greek war mutiles in Athens.

Another Army Hospital to Close.

It is officially announced that Kenilworth Inn, Asheville, N. C., now being used as a government hospital, will be reopened to the general public as a hotel on February 1, 1920. The government's contract with the owners of the hotel expires September 1, and the hospital will close at that time.

Obituary Record.

Dr. Henry Davidson Fry,

After a long illness, died at his home in Washington, D. C., May 12, aged 66 years. He was one of the most prominent obstetricians in Washington. Dr. Fry studied medicine at the University of Maryland, from which he graduated in 1876. He was for a number of years professor of obstetrics and clinical professor of gynecology at Georgetown University, and was made professor emeritus upon his retirement in 1917.

Dr. James M. Smith,

One of Henry County's oldest citizens, died at his home in Martinsville, Va., May 19, aged 89 years. Death was due to old age after an illness of several weeks. He was engaged in active service in the war between the States. Dr. Smith is survived by his wife and several children.

Dr. Thomas Rowe Evans,

Acme, W. Va., was born in this city 65 years ago, died June 1. He studied medicine at the Medical College of Virginia from which he graduated in 1877. Dr. Evans was unmarried. He had practiced for some years in West Virginia.

Chris Baker,

Who will be remembered by many ex-students of the Medical College of Virginia, as former custodian of the dissecting room of the College, died June 8 as the result of paralysis. Though his exact age was never known, he must have been between eighty and ninety years of age, and had been connected with the College for nearly seventy years.

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Original Communications.

SOME OF THE NERVOUS AND PSYCHIC EFFECTS OF INFLUENZA.*

By J. ALLISON HODGES, M. D., Richmond, Va.

The memory of the recent epidemic of Influenza still abides with many of us as a horrible nightmare. The disease, by its sudden and dramatic onset, as well as by its tragic experiences, has left enduring scars upon physicians as well as patients, and today I purpose to consider briefly only its effects on the nervous system, leaving to others the consideration of its ulterior effects upon the heart, lungs, and other systemic organs.

This epidemic of influenza has been notable in many respects, but especially conspicuous for its effects upon the nervous system. In reviewing these nervous and psychic symptoms, it is but natural to contrast this present pandemic with those epidemics that have preceded it during the past thirty years. In the majority of these, the upper respiratory system, and at times the muscular and mucous tissues of the body have suffered mostly, but in this later epidemic, in this section, the lungs and the nervous system have been chiefly and most severely indicted, though to judge from published reports, it would appear that in other sections of our country, the nervous as well as the gastroenteric forms have been inconspicuous. There can be little doubt, however, that we have suffered at this time from genuine pandemic influenza, which, after making the round of Europe, has returned to us in apparently aggravated form. It is evidently due, now, as formerly, to Pfeiffer's bacillus, but it is also significant that, though clinically it has varied in its manifestions, yet everywhere its course has been consistently more malignant, and its mortality relatively higher than in former visitations.

Likewise, its selective tendency, in attacking certain of the bodily systems in this epidemic, has been as notable as it has been inexplicable, and in none probably more so than in its effects upon the nervous system, for as Sir William Osler epitomizes it: "Almost every form of disease of the nervous system may follow influenza."

In practically all of the influenzal cases which have survived this present epidemic in this section, the recovery of the patients has been slow and protracted, because of an unusual and undue physical and mental weakness, and this condition of asthenia has in most cases been apparently entirely disproportionate to the duration of intensity of the infection.

It was first thought that this post-influenzal state was induced by the excessive use of depressant medication in the early stages of treatment, but latterly, when less of such medication was employed, and stimulants were regularly administered from the onset, the results were the same.

Special Nervous Symptoms.

These symptoms have been not so much those of irritability and weakness of the myocardium, manifested by tachycardia and shortness of breath on slight exertion, as of complete nerve exhaustion with, in some cases, special symptoms of a pure fatigue and anxiety neurosis. In most nervous cases associated with influenza, also, there have been evidences of depression, but it was not usually a genuine psychosis, but a mild toxicosis, except notably in those patients who had previously been unduly "terror-stricken" at the climax of the invasion of the epidemic in their locality.

Only a few of the cases seen by me, suffered from neuralgias, and none had convulsions, though a few showed transient emotionalism and slight hysteria, and special neurologic signs have been markedly absent in the great majority of cases that have come under my clinical observation.

The nervous effects, then, have been mainly functional and symptomatic in type, with a dominating general asthenia throughout the clinical course of nearly every case, but the psychic effects have uniformly been graver and more rebellious to treatment.

Of this latter class of post-influenzal cases that I have treated since the first of October, twenty-eight cases evidenced true symptoms of genuine psychoses.

Influenza Psychoses.

Briefly stated, these psychoses may be re-

*Read at the meeting of the Southside Virginia Medical Association, at Petersburg, June 24, 1919.

ported for the purpose of statistical convenience and clarity under the following groups, which though limited in number, are yet sufficiently suggestive, I take it, of the usual tendencies of this condition, to make them of a certain scientific value:

Group A—Toxic-infectious delirium cases;
Group B—Encephalitic cases;
Group C—Dementia Praecox cases;
Group D—Other forms of psychoses;
Group E—Unclassified cases;

On this basis the *numerical incidence* of the cases was as follows:—

Group A—Delirium	11
Group B—Encephalitis	3
Group C—Dementia praecox	8
Group D—Other psychoses	4
Group E—Unclassified	2

It is entirely probable, however, that these diagnoses may be somewhat changed in the later development of the cases, and, in fact, already two, if not three of those tabulated as "infection-toxin delirium" cases are becoming gradually more definitely symptomatic of a frank dementia praecox. This is, however, rather to be expected, for, of the eleven cases reported under Group A., only five were typical praecox cases when first seen.

The duration of the influenza, speaking specifically, as well as the time elapsing before the development of any of the psychoses, is rather indeterminate in these cases, for most of of them were seen subsequent to the termination of the acute influenzal attack; but from the most reliable statements of the patients and their physicians, the usual time of sickness in bed was from five to twenty days, and the time intervening between the termination of the influenza, as thus determined, and the incidence of the psychoses engendered, was variable, but was on an average, for these cases, approximately of about twelve days.

It appears as a clinical fact, though, from a study of these cases, that neither the duration nor the apparent severity of the primary attack influenced materially the post-influenzal psychotic manifestations, for especially in the specific dementia praecox cases, as large a percentage followed the briefer attacks as did the more prolonged, and presumably more severe infections, and with this, Menninger, in the Journal of the A. M. A. concurs.

The record of this entire series seems to prove indisputably, then, that a period of about a week intervenes before the incidence of the psychoses, except the febrile deliria, and that simple delirium occurs early in the course of the disease as an associated psychosis, while dementia praecox is invariably a post-influenzal development.

The sexual distribution of the twenty-eight cases considered, was relatively divided about equally, there being twelve males and sixteen females, and the only notable fact as to sex, was the slight increase of the cases of delirium among the females.

The age of the patients, according to the five diagnostic groups, ranged from eighteen to fifty-four, and did not tend to show that the age range was a special factor in the determination of the resultant psychosis, though it was suggestive of the fact that dementia praecox was more frequent in these cases in the early half of the second decade.

The symptomatology of the cases, as presented under the five diagnostic groups, covers a variety of mental disturbances, not differing materially, however, from the same conditions arising from other causes, except that depression was not relatively as frequent a symptom.

The three cases tabulated as "Encephalitis" were exceedingly interesting, two of them being cases of encephalitis lethargica, and the other, acute hemorrhagic encephalitis. The two former died and the latter recovered; the two former cases were in females of middle-age and the latter in a male of thirty years, though it usually occurs in persons under twenty, and more often in females than males.

Likewise, the group of cases reported as unclassified is interesting because of the difficulties of diagnosis, and the uncertainty of the course of future developments. At no period have they shown signs of symptoms which would definitely justify a rational nosology.

Conclusions.

1st. The present epidemic of influenza in this section has been notable for its exhaustive effects upon the nervous system;

2nd. The nervous symptoms have been mainly functional in type, and have added to the already asthenic condition of the patients.

3rd. The post-influenzal psychoses have been more serious and have comprised a variety of mental states, not different from other psychic conditions from other causes, except that there have been relatively fewer depressive manifestations;

4th. Dementia praecox has been the most frequent of the definite terminal psychoses;

5th. Neither the gravity of the infection nor the duration of the illness seemed to indicate previously the type of the psychosis;

6th. The majority of this series of cases proved rebellious to early treatment, but continued elimination and tonic treatment have been of value in a fair proportion.

ADDRESS TO THE GRADUATING CLASS, JOHNSTON-WILLIS SANATORIUM TRAINING SCHOOL.*

By DOUGLAS VANDERHOOF, A. M., M. D.,
Richmond, Va.
Professor of Medicine in the Medical College of Virginia.

Before proceeding to the pleasing task of addressing the graduates of this evening, I desire to review briefly the activities of the training school.

The Johnston-Willis Sanatorium was opened for the reception of patients on May 25, 1909, with an enrollment of twenty pupil nurses. Under the stern tutelage and strict supervision of Miss Hancock, assisted by graduate floor nurses, how quickly the novices rounded into their uniforms of service and were soon able to take temperatures with *sang froid*. As I look back to those early days I recall no confusion or catastrophies. Perhaps some of the novelty of the situation was over-shadowed by the keen enthusiasm—or shall I say the boisterous energy—of Dr. Willis. The impression that stands out the clearest in my memory, however, was the radiant happiness and content of the beloved physician, our Dr. Johnston, in the attainment of a private hospital where his days' work could be done in harmony and peace, unattended by friction and petty annoyances that are so inevitable to the hurly-burly of the routine in public institutions. His joke or terse witticism in the operating room; his anecdotes in the dressing room, so absorbingly interesting that standing space was often at a premium to the many visiting and attending physicians; his rounds through the hospital, unhurried and dignified but spreading broadcast his rare humor and courteous benefactions—all these spoke for the fulfillment of his heart's desire in the new hospital. Oh, the pity of it, that those who succeed you—you who have known and loved this greatest of physicians and men—are denied the exquisite joy of daily association with him.

The first class to be graduated from the Johnston-Willis Sanatorium Training School numbered seventeen nurses, who received their diplomas in June 1912. In the succeeding six years, including the graduates of this evening, fifty-nine additional nurses have successfully completed the three years' course of instruction, thus adding to the profession a total of seventy-six highly trained young women. Of this number death has claimed one, and for the loss of Miss Thompson of the first graduating class we mourn. From the statistical standpoint, as the insurance man might argue, the effectiveness of the group has been considerably curtailed by the "declension into matrimony" of twenty graduates, and I am reliably informed that this number is to be still further augmented in the very near future. While most of the remaining graduates have been actively engaged in private nursing, it should be noted that eleven have gone into institutional work, having been called to responsible positions as superintendents or assistant superintendents of various hospitals. Finally, in response to the nation's need, no less than twelve graduates have sacrificed the comforts and emoluments of private life to enroll themselves in the American Red Cross, base hospital units and cantonment hospitals. From two of these graduates, already in France, come most interesting reports of their work. All honor to these brave and patriotic young women in their ready acceptance of the stern duty imposed by the world's war.

Individually and collectively, it may be said, the Johnston-Willis Sanatorium Training School has prospered and waxed strong. For much of this achievement credit is due to our late superintendent, the capable Miss Darlington, whose acute illness and untimely death so recently shocked us all. Of a most pleasing personality, endowed with excellent executive ability, her whole heart and soul in the School and her pupils, she has systematized and standardized the courses of instruction as they exist today. Even of more importance, her very gentility and good breeding attracted to the School only such young women as we like to associate with the name trained nurse.

As an evidence of the well coordinated control and management of a modern hospital, the gap produced by the loss of our director was immediately filled in a most satisfactory manner by the transfer of the head nurse of the operating department to the position of acting superintendent. It has been with no little pleasure that we have observed the smooth conduct and efficient working of the School and Sanatorium under Miss Bernice Hall's com-

*Delivered to the graduating class of 1918.

petent management. In this office she has had the constant help of another of our graduates, Miss Mary P. Routt, who has well qualified herself for a position as assistant superintendent when Miss Hall resumes charge of the operating room.

In concluding these introductory remarks it is my privilege to announce to the Training School and its friends the appointment of a new superintendent whose duties will be assumed in June. Possessing as she does a Bachelor's degree in art, and a diploma from the Johns Hopkins Hospital Training School, Miss Josephine McLeod, the new appointee, comes to us full of ripe experience as a former hospital superintendent, and directly from a sabbatical year spent in study for a Master's degree in art at Randolph-Macon College. She is known to be not only a cultured woman but one having a high regard for the practical side of the nurse's training. We therefore feel most assured of the future welfare of the School under Miss McLeod's direction.

Of the value of a graduating address I am not altogether certain. I do not remember to have derived any enduring benefit from the many that I have been called upon to hear. May I, therefore, simply talk to you about the nurse and a few of her characteristics, with possibly a reference or two to some of her problems.

Dr. Osler, in one of his delightful addresses, facetiously inquires whether the trained nurse is an added blessing or an added horror in our beginning civilization. Speaking from the standpoint of the sick man, he emphasizes the fact that illness dims the eye, pales the cheek and roughens the chin and makes him generally a scare-crow, not fit to be seen by his wife, to say nothing of a strange woman all in white or blue. In her hands the sick man becomes, as it were, a child again. She takes away his clothes and his smoking tobacco along with his individual liberty. She sponges and bathes, feeds and waters him, and appears to assume all sorts of unwarranted authority over his person. "For generations has it not been man's inalienable privilege, a privilege with vested rights as a deep-seated animal instinct, to turn his face toward the wall, to sicken in peace, and, if he so wishes, to die undisturbed? All this the trained nurse has, alas, made impossible." And more, too, as Dr. Osler points out. The tender mother, the loving wife, the devoted sister, the faithful friend, and the old servant who ministered to his wants and carried out the doctor's instructions so far as were consistent with the sick man's wishes—all, all are gone, these old fimiliar faces; and now you reign supreme, and have added to every illness a domestic complication that is very real.

Except in the warped judgment of the sick man, for which, with Dr. Osler, we have the warmest sympathy but no respect, the trained nurse is regarded as an added blessing, with, of course, certain limitations. To her virtues we have been exceeding kind—tongues, like those of Mother O'Conner, have dropped manna in their description. To her faults—well, like Mother O'Conner again, let us be blind, since this is neither the place nor the time to expose them. Her simpler frailities, however, cannot but have impressed themselves upon me in the past thirteen years of an active association with her many kinds and varieties, and you must bear with me a few moments if I lightly touch upon them.

First there comes to my mind the "excuse" nurse. Every time you pick up your charts at the table she bores you with the most tiresome excuses as to why the charts are incomplete. You know she has been very busy, or very lazy, and let it go at that, if it doesn't happen too often.

Then there is the "officious" nurse, whose chief characteristic is in speaking more or less volubly before she is spoken to. The physician generally wants to see the chart first, the patient next and the nurse last. This admonition does not in any way preclude proper suggestions from the nurse. Her intimate contact with the patient frequently enables her to offer certain timely recommendations which can be well received by the right minded physician.

A rather harmless variety is the "learned" nurse, whose every "hypo" is given "hypodermatically." Her patients never vomit but suffer from emesis, ordinary hiccoughs become singultus, and the young house doctor translates her records with the aid of a pocket medical dictionary. But as a little knowledge is a dangerous thing so this modern daughter of Eve sooner or later comes to grief when she tries to explain that the surgeon did a paracen-

tesis for an indurated prepyloric duodenal ulcer, or that the diabetic patient over in the annex objected to the calories in his diet.

In every training school we find one or more examples of the "egotistic" nurse. She has a confidential manner with a dash of *savoir faire*, and her foible is possibly better known to the superintendent than to the members of the visiting staff. The anxious patient who falls under her care has his mind diverted from his own "peculiar" case by the strange combination of circumstances that induced this bud of a most prominent family tree to undertake the study of nursing. She has her doubts as to the wisdom of having chosen the profession in which she is quite possibly only temporarily engaged, etc., etc. This nurse soon becomes the laughing stock of her associates and it is only by gradually acquiring a certain degree of self-effacement in the pressing duties of her position that she can hope to be reinstated in their confidence.

Were I so inclined I might touch upon the subject of the fussy nurse or the noisy one; or I could call to your attention the pessimistic type or the over-sympathetic creature who is irrevocably lost when she so far gives the reins to her feelings as to indulge in womanly tears. But I reserve such descriptive power as in me lies for the contemplation of that most awful example of unbridled garrulity, the "gossiping" nurse. While not the recipient of all the wretched secrets of life, as are the parson and the doctor, the nurse will frequently be in households the miseries of which cannot be hid, all the cupboards of which are open to her and she becomes involuntarily the possessor of the most sacred confidences. Realizing this situation in all its seriousness, may I not fervently agree with my illustrious preceptor when he enjoins: "Printed in your remembrance, written as headlines on the tablets of your chatelaines, I would have two maxims: 'I will keep my mouth as it were a bridle.' and 'If thou has heard a word let it die with thee'. Taciturnity, a discreet silence, is a virtue little cultivated in these garrulous days when the chatter of the bander-log is everywhere about us, when, as someone has remarked "speech has taken the place of thought." Furthermore, "Things medical and gruesome have a singular attraction for many people and in the easy days of convalescence a facile-tongued nurse may be led on to tell of 'moving incidents' in the hospital or operating room, and once untied, that unruly member is not apt to cease wagging with the simple narration of events. To talk of disease is a sort of Arabian Nights' entertainment to which no discreet nurse will lend her talents." Not only should she herself refrain from talking shop but the peace of mind of Dr. Willis and all of the staff at the Sanatorium would be considerably enhanced if she could use her good offices to prevent among patients and visiting friends a morbid discussion of ailments and infirmities.

Before concluding my remarks I want to impress upon the members of the graduating class and those who expect to follow in your footsteps, the prime necessity of proper organization and affiliation. I will remind you that the question of state registration of nurses began to be earnestly discussed in 1900. Three years later the first registration law for nurses in America was adopted by the state of North Carolina, followed shortly by similar legislation in New Jersey and New York. Later in the same year (1903), Virginia succeeded in securing the passage of her law, thus being the fourth state to adopt registration. At the present time there are forty-two states with statutes for registration of nurses, and steps are being taken to secure reciprocity between these various states.

The idea of state or national registration for nurses is similar to that of registration of physicians. Its object, broadly speaking, is twofold, in that it serves to protect the qualified nurse and at the same time to protect the public against the partially and imperfectly trained nurse. Since legal status has been established in Virginia, 1864 nurses have registered in the state.

An important step in the organization of nurses in our community was the formation, in 1901, of the Virginia State Association of Nurses, which was chartered in 1915. The obvious advantage of such organization is evident in many directions. In addition to legal recognition already mentioned, the movement has definitely resulted in the raising of the standards of training schools throughout the state. Through its endeavor the field of nursing has been extended into many branches. The State Association has built a cottage for tuberculous nurses at Catawba Sanatorium,

and now a fund of $6,000 is being raised to endow a bed at this institution for indigent nurses. In addition, an insurance fund has been established to tide a sick nurse through any period of illness.

In the past year the American National Association of Nurses, in amending its constitution, has necessitated a change in the constitution of all state associations, making the nurse who is a member of her alumnae association automatically a member of the state association and the national association. It therefore behooves every graduate of the Johnston-Willis Sanatorium Training School, so soon as she shall have passed the state board examinations, to become a member of the alumnae association. The admirable objects of this association, as stated in Article II of its constitution, are "to promote harmony and fellowship among its members, to extend aid to those in trouble and illness, and to elevate the standard of nursing."

Looking forward to your successful careers I may remind you that never before in the history of the world have so many opportunities been presented to the professional woman. The field of endeavor of the trained nurse has broadened to such an extent that it is very apparent we have not enough graduates to meet the demands. While a considerable proportion of registered nurses will continue to engage in private practice, many more than heretofore are called to institutional work because of the increasing number of hospitals and sanatoriums throughout the country. The general awakening of the public, slow as it has been, to the great importance of public health work, has created an unusual demand for the visiting nurse and the school nurse in cities, and for the community nurse in rural districts. City and state boards of health may be said to be efficient in the proportion to which they employ capable graduates of our training schools. For those nurses who, for one reason or another, cannot engage in active military service, there is at present a most interesting field of usefulness in the extra-cantonment work in the immediate neighborhood of our large training camps. The increasing tendency of physicians to specialize in more or less limited branches of medicine calls for many office nurses who soon become absolutely indispensable. If such an office nurse is ambitious and is willing to master shorthand and typewriting, she can readily qualify for the enviable position of a private secretary. Another large field that is being most successfully entered by women is the laboratory. By supplementing her hospital training with proper instruction in chemical, microscopical and serological methods, or in Roentgen-ray technique, the nurse readily qualifies herself for a most interesting and lucrative position as a laboratory or X-ray technician. Still other opportunities are offered in special subjects, such as the dietetic nurse for diabetics, who is capable of being intrusted with the major part of the therapy in this disease.

With all these many opportunities before you, may I add one solemn warning. You will succeed in the true sense of the term only in so far as you make of your work a real religion. It was Carlyle who said that all true work is religion. From this theme of Carlyle's arises the motto of the Johnston-Willis Sanatorium Training School, *Laborare est Orare*,—Work is Worship, which should not only appear on all of your school pins, but be indelibly engraven on your hearts.

In closing let me express the wish that for each one of you there may be an active life full of joy in your work, and crowned with the rewards you will so justly deserve.

Professional Building.

APPENDICITIS WITH ABSCESS AND DIFFUSE PERITONITIS. RESULTS OF OPERATION IN 100 CASES.

By G. PAUL LaROQUE, M. D., F. A. C. S., Richmond, Va.

The purpose of this short statement of the results in 100 cases of appendicitis with abscess is in obedience to the belief, many times previously expressed, that we owe it to the doctors who send us cases and the people whom we treat and the trustees of the hospitals in which we work, to place before them our own personal results of practice and to invite comparison with the results of other surgeons in the community. Such reports are a part of ordinary politeness, not only, but plain honest duty.

The first question that every experienced doctor asks himself after making the diagnosis of appendicitis is, shall this patient be operated upon immediately? This he usually answers for himself in the individual case and

it is neither good manners nor good sense for one to make sweeping assertions in dogmatic fashion as to whether or not every case should be operated upon immediately.

The next question which arises in the mind of the practitioner who does not operate is, shall I send this patient to the nearest hospital or shall I send him to a better one and shall the patient be treated by a doctor who operates or shall he be treated by a surgeon? This question can be answered only by comparing results and it is this comparison which the medical doctor should demand of surgeons.

Who shall perform the operation? If every doctor would demand of every surgeon a detailed and truthful statement of his exact results in large groups of cases, the question as to who should operate would in some cases answer itself.

During a period ending December 1918, I had personally operated upon 600 patients for appendicitis. This group does not include several hundreds for whom, during the course of an abdominal operation for other purposes, a normal appendix was removed. The total 600 cases were reported in the *N. Y. Medical Journal*, December 1918. In the 600 cases of appendicitis, 101 cases, or practically sixteen per cent had abscess; twenty-five had abscess which had ruptured and resulted in diffuse spreading peritonitis.

Every case of abscess had been acutely sick more than forty-eight hours. Over fifty per cent of them had been sick a week or longer; a few had had appendiceal abscess as long as three weeks; one had been sick four weeks with a post-caecal abscess due to appendicitis during which time he was treated for typhoid fever. Every case of appendiceal abscess had had administered during the acute stage of the disease some sort of cathartic in an attempt to purge the bowel. Conversely in another group of 100 cases of definitely demonstrable appendictis in whom no cathartic had been administered and no food given and in whom peristalsis had been pacified by morphine, not one case had to be drained. These were not operated upon immediately but were carried over a sufficient length of time and distance to come to Richmond for treatment.

Is the operation immediately urgent? Most doctors of good judgment are perfectly familiar with the fact now that even in a suspected case of appendicitis cathartics and food should be religiously avoided and opiates administered; and the average doctor of experience needs no one to tell him that under this treatment the average case of appendicitis does not demand emergency operation. Indeed only an arrogant surgeon would thus reflect upon the intelligence of an experienced doctor.

In the present series of 100 cases of abscess approximately forty per cent of them were brought to Richmond from various parts of Virginia and neighboring states. They had traveled in trains, boats, automobiles, horse drawn vehicles; they all had abscess when they left home and they all had abscess when they arrived here. In no case has travel influenced the severity of the disease and in most patients the avoidance of purgation, withholding of food, and the morphine administered during the period necessary to come to Richmond has seemed to produce betterment. Indeed, it is no longer open to doubt that appendicitis is much more intensified and abscess is much more likely to form as a result of administration of cathartics than as a result of passing of time. The results obtained by this practice are so greatly superior to the results obtained by an occasional operator doing "emergency work," as to justify the belief that it is safer for a patient to have abscess than it is to be operated upon in the first few hours or days of the disease by a surgeon who is unable to demonstrate a mortality of less than three per cent (my own personal results in abscess) in at least 100 cases.

Moreover it is sometimes quite unwise to hurry too rapidly to do even "simple (?) appendectomy". We should bear in mind that a patient with appendicitis may also have some other pathology in the abdomen. It is good surgical judgment to make haste quite slowly especially in cases in women in order to be certain of the diagnosis and especially to recognize other pathology which may exist coincidently in the same patient, so that all the pathology may be cured at one operation. Thus, for example, in a series of 500 patients on whom I operated for pelvic disease, five per cent of them (twenty-five women) had previously been operated upon for appendicitis and their pelvic disease was operated upon by me as a second operation. Some years ago I was guilty also of "emerging"

upon women for appendicitis but I have long since learned that a properly placed incision enabled co-incident abdominal pathology to be cured by the same operation. In cases of this kind I have deliberately postponed operation for days (and in some cases weeks) in order to be able to make a complete diagnosis and operate successfully upon all the pathology at one time. With this practice I expect many doctors and a few surgeons to disagree and some will say that there is a deliberate risk of abscess formation. Perhaps there is some risk but this need not be disheartening for ninety-seven per cent of abscess cases are cured and he who argues that every case of appendicitis should be operated upon immediately must be able to show superior personal results of such treatment or his argument will be open to challenge. The fact remains, however, that when operation for appendicitis in the suppurative stage is deliberately postponed, the burden of proof as to the wisdom of this is upon the doctor who proposes it; and while it is generally safe and sometimes wise to postpone operation until the patient can be placed in good hands, it is imperative that ample morphine be administered, food withheld and cathartics scrupulously avoided. And yet even if cathartics have been given by friends and relatives before the doctor has seen the case, and even if morphine is withheld, even then ninety-seven per cent of the patients can be cured and the one who advises immediate operation by a doctor who occasionally operates, is not justified in giving this advice unless the operator can demonstrate a mortality of less than three per cent in at least 100 cases.

Should the appendix be removed at the time of drainage of abscess? It would seem that the opinion of all intelligent men would be that the ideal thing to do is to remove the cause, namely the appendix. In the individual case there is a difference in the judgment of the operating surgeon. It is so obviously unwise to risk the patient's life that the question hangs upon the decision of how much additional risk is taken by a reasonable and skillful search for the appendix. In abscess cases we have removed the appendix in ninety-four per cent at the first operation. There were three deaths in this series of 101 abscess cases. In two of these the appendix was seen without search and removed; in the third it was not seen and not searched for. I know other surgeons of good judgment who consider it wise to make no or little search for the appendix at the primary operation, being content merely to open and drain the abscess. I would plead with those who have adopted this practice to publish their results as to the saving of life, the duration of the patient's stay in the hospital, and the necessity for secondary operations. Surely, we are not easily convinced that a patient does not still suffer from appendicitis if the appendix has not been removed. I have operated upon six patients for appendicitis of the stump remaining after the abscess had been merely drained by other surgeons. I am anxious to compare my own results in removing the appendix in ninety-four per cent of cases of abscess with the results of others who, more or less in routine fashion, content themselves with incision and drainage of abscess. In ninety-six of the 101 abscess cases, appendectomy was performed at the time of drainage of the abscess thus saving (1) life, (2) long time required for the healing of the sinus and (3) avoiding the necessity of a second operation for recurrent illness.

Results—There were three deaths in the 101 cases. One man with appendicitis and a large hole rupture with diffuse peritonitis died with signs of paralysis of the bowel seven days following operation. Two boys almost moribund with profuse cathartic peritonitis, died, one within three hours and the other within thirty-six hours after operation. For these deaths I offer no excuse save that I was not sufficiently skillful to save them. Ninety-seven cases of abscess including twenty-two with diffuse peritonitis were saved. They remained in bed from twelve to eighteen days.

There have been two cases of femoral phlebitis both in men and both in the right thigh.

Wound infection and hematoma have not occurred in abscess cases. Careful study of wound infection has convinced me that most wound infections are the result of breaking down of small collections of blood beneath the skin and fascia. This has not been observed in drainage cases. One case was followed by an annoying sinus of the abdominal wall. This patient was a woman with a large abscess and pelvic disease operated upon through a mid-line incision.

Three of the 101 abscess cases developed faecal fistula following operation. One was a boy with abscess of two weeks duration complicated by gangrene of the caecum. The fistula healed in 3 weeks. The other two were in patients who had co-incident tuberculosis of the bowel.

There were four cases of dilatation of the stomach promptly relieved by lavage.

Two children in acidosis stupor were promptly relieved by soda water per bowel.

Several cases had pneumonia and bronchitis before operation. These were cured by the operation. None developed respiratory disease after operation.

There has been no post-operative obstruction, no hemorrhage, or secondary peritonitis or abscess, no anaesthetic disasters, no catastrophies.

Concerning post-operative hernia, I consider every case which has to be drained as having a rupture of the abdominal wall as soon as the operation is performed. I have always instructed every patient to report if a hernia should occur. Only one has so reported though I feel quite certain that others have a hole in the belly wall. The opportunity to re-examine, at the end of three to six months, a large proportion of the cases which had to be drained, and failure to find but one case, leads me to believe that post-operative hernia is exceedingly rare following the muscle splitting incision, even if drainage has to be employed, provided we use small instead of large drainage tubes and carefully place sutures between the tubes when more than one is employed. It would be instructive if the number of post-operative herniae following operation for abscess by surgeons could be compared with the number of cases of hernia following operation in clean cases in the patients who live after operation by inexperienced doctors.

603 *East Grace Street.*

EOSINOPHILIA.*

By ROBT. S. PRESTON, A. M., M. D., Richmond, Va.

During the summer and autumn months the prevalence of parasitic and asthmatic diseases causes an increased percentage of the eosinophiles in a larger proportion of differential blood counts.

In the examination of a blood smear an eosinophile rests the eye that is tired of viewing the "polys." A look at it is prolonged because its increase in number characterizes diseases not frequently encountered and not usually difficult to treat. Much interest is naturally manifested in those smears which diagnose an eosinophilia. This term means an increase in the number of circulating eosinophiles[1]. These cells when stained by the Romanowsky method are characterized by the large, bright red or pink, highly refractile granules which often obliterate the protoplasm from view. When stained by Ehrlich's triacid mixture these granulations take a copper brown tint contrasting with the violet shade of the neutrophilic granules. The nucleus is usually of a polymorphonuclear variety and stains blue. Mononuclear eosinophiles are found in myelogenous leukemia.

In the human the eosinophiles represent normally one-half to four per cent of the total number of white corpuscles, or twenty-five to two hundred per c. m. of blood. They are more numerous in children than in adults (Sahli, Leopold) and are increased physiologically during menstruation (Todd). In size they are comparable with the polynuclear neutrophiles.

Origin.—Todd states that the eosinophiles are formed in the bone marrow from eosinophilic myelocytes. The Kurloff body may represent their granules[2]. Another authority[3] states that they show no development from mono- to polymorphism, that the morphology of the nucleus bears little or no relation to the origin, size, age or function. Bayne Jones[4] believes there is an origin outside the bone marrow. In a postpneumonic pleural effusion 45 per cent of the leucocytes were eosinophiles, many being mono-nuclears, while the blood contained a slight increase of them but no mononuclear ones. He agrees with Schwarz that in an exudate undergoing absorption the protein split products may be eosinotatic, producing both the general and local eosinophilia. Another theory[5] is that these cells are those which have become prematurely old in defense of the organism and that eosinophilia signifies a prolonged conflict with exhausted energy. Hewlett[6] believes that they originate normally in the bone marrow. Transitions between the main types of blood cells do not occur and one ancestral cell is common to all, in the opinion of the majority of hematologists. Whence they come and whither they go, the order of their going, the cause of increase and function are the subjects of much theorizing. We know that an increase is of diagnostic

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value in the following diseases.

On 126 cases found in routine examinations with an eosinophilia of 4 per cent or more, there were made 208 differential blood counts. Hasting's stain was employed and 200 cells were counted. When 4 per cent or more of the leucocytes are eosinophiles an eosinophilia is considered to exist. Less than four per cent of eosinophiles may be of equal diagnostic value when there is an absolute but not a relative increase in their number.

Bronchial asthma.—In this disease there is an increased number of eosinophiles in the blood and in the sputum. They are increased more during the paroxysms than during the intervals (Von Noorden) and are more in chronic than in acute cases (Salecker). In a case followed for a year by Wolff the eosinophiles were always over 10 per cent. Herrick makes the statement that the type of the disease showing eosinophilia of the blood responds best to potassium iodide. Salecker[7] calls attention to the fact that violent fluctuations in the blood, as seen in asthmatics, are observed elsewhere only in consequence of bacterial and chemical irritation.

Two cases considered true bronchial asthma, in that no reflex origin was discovered, showed leucocytes of 12,500 and 10,350 and eosinophilia of 15 and 12 per cent, respectively. These cases showed wide fluctuations in percentages of eosinophiles. Of eighteen cases of asthma, attributable to other than local origin, thirteen had eosinophilia. Of these seven had nasal defects, three had alveolar abscesses, two had cardiac incompetence and one was associated with Addison's disease. In these cases the eosinophilia varied from 4 to 12 percent with an average of 9 per cent. The average of eosinophiles in bronchial asthma as stated by Holt is 10.7 percent. The highest counts on record are

Leucocytes	Eosinophil %
52000	25. —Color
8300	53.6—Billings (8)
57000	77. —Herrick (9)

Helminthiasis.—In most cases of "worms" there is an eosinophilia. It is fairly constant in uncinariasis, trichinosis, and bothriocephalus, tenia, ascaris, oxyuris infections and less so in filiaria, ecchinococcus, Bilharzia and hydatid diseases. Any intestinal parasite may cause it. It is not always present nor does its degree indicate the severity of the infection, though it seems to be a characteristic manifestation of reaction to the parasitic toxins and indicates good resistance[10]. In fact it is to this class of cases that eosiniphilia is of highest diagnostic significance.

Uncinariasis.—In 94 per cent of the cases of hook worm, eosinophilia is a most important feature[11] and the average number of eosinophiles is 4.6 per cent. Coppedge[12] reported a severe case that showed entire absence of eosinophiles. Chronic cases with poor resistance show little or no eosinophilia[13]. Cases under treatment usually have a higher percentage of eosinophiles than before treatment was begun. An increase in percentage in severe cases is of good import whereas a decrease is generally a bad prognostic sign. Ehrlich[14] reports a case with an eosinophilia of 72 per cent.

In twenty-two out of twenty-four cases of hook-worm there was an eosinophilia of 6 to 33 per cent, the average being 12.6 per cent. Seven of these cases were uncomplicated (6, 6, 7, 9, 11, 14 and 15 per cent), five had painful cervical adenitis (7, 8, 10, 14 and 27 per cent), three had tertiary syphilis with positive blood Wassermann (6, 7 and 12 per cent). Rhinitis, myocarditis, appendicitis (so diagnosed), adenitis and rhinitis accompanied cases with eosinophilia respectively of 8, 11, 14 and 14 per cent. One case with 33 per cent eosinophilia suffered from acne, adenitis, "rheumatism" and a four-plus Wassermann. In three cases of suppurative cervical adenitis a failure to induce healing was certainly due to neglect in reaching the bottom of the trouble. A blood film represented the depth. Two cases with 14 and 24 per cent eosinophilia and presenting symptoms similar to those for which they had submitted to an appendectomy, showed hook worm ova.

Ascaris.—In twelve cases of round worm the eosinophilia ranged from 4 to 70 percent. Five cases were uncomplicated. One case was associated with an acute urethritis (6 per cent), another with otitis media and eczema (12 per cent), and another with general adenitis and facial paralysis (21 per cent). Four cases, presenting typical symptoms of acute appendicitis and evacuating the largest number of worms, had the highest eosinophila count 10, 22, 52 and 70 per cent. Under treatment the eosinophilia in one case gradually diminished (70 per cent to 63-65-39-56-51-33-3 to 0 per cent). In this instance it was used most gratifyingly as a control for treatment. From

the first the result of the treatments each time was a surprise to the patient who felt perfectly well. A total of 43 worms were evacuated but not over five at anyone time when santonin or chenopodium was administered. This is the highest relative (70 per cent) and absolute (7,000 per c. m.) increase in percentage personally computed. In a similar case the eosinophilia proved to be the first and most important evidence in making the diagnosis. In this also the percentage of these cells gradually diminished under treatment successively 52-39-20-15-8-0 percent. In only one instance was an increase under treatment in the percentage observed. This was one of lobar pneumonia, complicated with ascaris worms, in which there were 180 eosinophiles per c. m. (1 per cent) at onset which increased to 3 per cent or 300 per c. m. The low relative and absolute number of eosinophiles was attributed to the toxic and exhausted condition of the patient.

Tenia, etc.—Four cases of tenia have been seen with eosinophilia. One uncomplicated had 15 per cent, two with general adenitis (6 and 20 per cent), one with symptoms of appendicitis and a four plus Wassermann 6 per cent. In one case of oxyuris vermicularis and hemorrhoids there was 5 per cent eosinophilia. In three cases of tricomonas intestinalis there was 4 per cent and 5 per cent and 18 per cent. In an amoebic infection of long duration with leucocytosis of 15000 there was 5 per cent eosinophilia. In amoebic dysentery there is rarely an eosinophilia unless complicated by other intestinal parasites. This frequently is seen in children (Amberg)[15]. Cases have been reported[16] of amoebic enteritis with local but without general eosinophilia and without Charcot-Leyden crystals. This is explained by the hemolytic process and by the phagocytosis.

Trichinosis.—Probably the highest diagnostic significance is attached to eosinophilia in trichinosis. In such a case on the records at Bellevue Hospital, New York, 79 per cent of the 20000 leucocytes were eosinophiles. In severe cases at the Johns Hopkins Hospital[17], the eosinophilia was most pronounced and actually suggested the diagnosis in four of them. There has been observed an accumulation of these cells in the muscles about the encysted embryos. Opie[18] has produced eosinophila experimentally by infecting guinea pigs with trichinae and shows that the percentage drops below normal before death and that if the dose is overwhelming, the number may be diminished from the start. There is an accumulation in the mesenteric nodes and in the lungs of these pigs, presumably because embryos have attracted them there. The bone marrow is usually increased and shows a large number of mature and immature eosinophilic cells (polynuclears and myelocytes). In very severe infections these cells show evidence of degeneration.

Repeated examinations of the feces is the first procedure in the explanation of an eosinophilia and this should be, if necessary, after a provocative vermifuge. Intestinal parasitic infections were found to explain eosinophilia in fourteen cases after one of more negative fecal examinations and in five cases was such an infection masked by its being explained apparently by a concomitant skin lesion or asthma.

Skin Diseases.—In various cutaneous diseases eosinophilia occurs. It can be demonstrated fairly constantly[19] in dermatitis herpetiformis, bullous dermatitis, pemphigus and scabies. In mycocis fungoides it is found in 45 per cent of cases. Chronic and extensive cases of eczema may give rise to a high eosinophilia, an average being 4.75 per cent. In psoriasis 3.5 per cent has been found to be the average in 29 cases. In bullous eruptions there in an increase about the time of a fresh outbreak. Kolmer[20] found that in 18 cases of scabies the eosinophilia was highest during the acme of eruption. Zappert found 4,800 per c.m. in pemphigus and Lazarus found 60 per cent in urticaria. Todd and Cabot mention that the eosinophilia depends upon the extent of distribution.

Ten cases of eczema in children with intestinal disturbance due to improper food have been met with that had 4 to 8 per cent eosinophilia. One case of extensive eczema associated with round worms had 12 per cent. Another apparentliy uncomplicated had 8 per cent. Five cases of urticaria gave eosinophilia, 11 per cent in two associated with asthma and rhinitis, 9 per cent in one with pulmonary tuberculosis and adenitis, 5 per cent with psoriasis and 4 per cent with luetic aortitis.

Four cases of acne have been encountered with eosinophilia of 4, 5, 6, and 33 per cent.

The last was complicated with hook-worm and tertiary lues, one with rhinitis and one with pulmonary tuberculosis and hemorrhoids.

One case of psoriasis with alveolar abscess had an eosinophilia of 4 per cent and another one with urticaria had 5 per cent.

One case of poison-ivy eruption had an eosinophilia of 5 per cent. An eosinophilia of 6 per cent in one case was attributed to a large phagedenic ulcer and another with 6 per cent to an anal fistula.

Hemorrhoids were associated with, though not considered causative of the eosinophilia in 8 cases. In 19 cases adenitis, local or general, was a prominent feature. In the majority of skin diseases of all varieties observed, the eosinophilia has not been present (Sahli, Cabot, Todd and Butler). Eosinophilia appears after the fever in some acute infectious diseases. In typhoid these cells disappear entirely during the fastigium (Sahli) and their presence during the first week is a favorable sign (Butler). In scarlet fever they may be increased not only after the fever but during it. After tuberculin injections a postfebrile eosinophilia may occur. In bacterial injections and after injections of dead cultures into animals the eosinophiles are fewer in the peripheral blood but during convalescence there may be an increase. At the site of the injection they are rare either because bacterial poisons destroy these cells or because they are driven away by a negative chemotactic influence.

Unexplained eosinophilias of 8, 9 and 12 per cent have been seen after the disappearance of the fever in rheumatism, typhoid and pleurisy with effusion. In this connection it may be mentioned that an eosinophilia, otherwise accounted for, was met with six times in cases with tertiary syphilis and positive Wassermanns.

The fact that scarlet fever, asthma, acute articular rheumatism, chorea and leukemia seem to be accompanied by eosinophilia is proof, says Ebbell[21], that animal parasites are involved in their etiology. Animal parasites and substances derived from their kingdom such as serums, organic extracts, absorbed hemorrhagic effusions and certain drugs invariably have an eosinophilia producing and attracting action.

Myelogenous leukemia is accompanied by a total increase in the eosinophiles, .5 to 5 per cent being mononuclears or myelocytes (Cabot). The differential count shows about 50 per cent of the polynuclear granular forms (neutrophiles, eosinophiles and basophiles) and about 40 per cent of their ancestral forms (neutrophilic and eosinophilic myelocytes).

The experiences of several authors (Macalister, Brown, Cabot and Leopold) tend to prove that eosiniphilia is present in most cases of true chorea. Leopold[22] found 4 to 16 per cent in ten out of twenty cases. He says that the persistence of eosinophilia or its recurrence forecasts a relapse and it is highest in recurrent attacks. Its absence is of some diagnostic value. In two cases of chorea, eosinophilia of 4 and 5 per cent has been observed. In three other cases it was explained by complicating round worm infections.

The literature contains accounts of the occurrence of eosinophilia in many and varied conditions besides those already mentioned, as for example (Butler, 1905) in emphysema, pthisis with cavities, in diseases of the nervous system (e. g. neurasthenia, hysteria and certain phychoses), in chlorosis, in uric acid diathesis and during early convalescence. Cabot and Sahli say that it occurs in a small number of cases of malignant tumors with cachexia. In two such cases this has been observed. It occurs after removal of the spleen or in chronic tumors of the spleen (Sahli), in ovarian disease, during absorption of hemorrhagic effusion (Cabot) and in enlarged prostate[23]. It is said[24] that those patients who bear tuberculin well react with an increase in eosinophilic cells, which may be regarded as an index to the development of certain protective forces.

After potassium iodide there is a marked increase in the number of eosinophiles[25]. Wood reports 14 per cent in vesicular eruption from this drug. It may follow phosphorous poisoning (Barton) and the use of nuclein and pilocarpin.

Aubertin and Geronx say that X-Ray treatments have an eosinophilic as well as neutrophilic reaction, unlike infections.

Cases of diarrhœa with marked constitutional symptoms and congestion of the rectal mucosa have been reported in which the eosinophiles disappear from the blood during the height of the attack to return later. These

authors[26] say that the local eosinophilia is accompanied by an increased proportion of eosinophiles in the blood, analogous to asthma and pemphigus, and suggest that eosinophilic proctitis is the local expression of a general constitutional anomaly. Strumpell calls this intestinal asthma. Langstein[27] describes cases of sudden eosinophilic intestinal crises and says that they speedily are followed by facial eczema in many cases and represent the first sign of an exudative diathesis.

There is a definite increase in the number of eosinophiles in hay fever[28] and in the conjunctival discharges of hay fever and vernal catarrh. Accumulations of these cells in 25 per cent of diphtheria hearts (Tawaka) and in the myocardium of trichinosis cases (Staubli and Hubuer) have been reported.

Asthmatic bronchitis, or a recurring bronchitis of the smaller bronchi, not necessarily associated with true asthmatic attacks[29] is often accompanied by an eosinophilia. Pyorrhea alveolaris is a frequent cause (Shivdas) of this asthmatic bronchitis. In 5 such cases the eosinophilia was 6 to 11 per cent, lower than the average in true asthma. Even 6 per cent is evidence in the differential diagnosis against tuberculosis.

Eosinophilia has been seen personally and unsatisfactorily explained in Raynaud's Disease (5 per cent), in prostatitis (5 to 14 per cent), in diabetes (8 to 18 per cent), in thyroid enlargement (4 to 8 per cent), in salpingo-oophoritis (5, 5, 5, 9 per cent), in acromegaly (7 per cent), in nephroptosis (5 to 6 per cent), in cholecystitis (5 per cent), in cirrhosis of the liver (6, 7 and 8 per cent) and in tuberculosis of the kidney (8 per cent).

The association of eosinophilia in conditions presumably anaphylactic is attracting considerable attention. This is illustrated in bronchial asthma and in urticaria and in exudative skin lesions and is regarded (by Moschcowitz, Schlecht and others) as an anaphylactic phenomenon. A similar explanation applies to the coryza, conjunctivitis, sneezing, and asthmatic seizures accompanied by eosinophilia that frequently attack laboratory workers in dissecting ascaris worms (Goldschmidt): to the eosinphilia produced in guinea pigs by injections at long intervals of extracts of round worms[30]; and to the eosinophilia occurring from the repeated injections of foreign proteins into sensitized animals. One injection does not produce an increase in the number of eosinophiles, nor does the extract when rendered protein free[30]. There is a marked difference in the ability of different proteins to produce eosinophilia and it has been suggested[31] that this property belongs only to a class of substances with a certain distinctive chemical structure and that anaphylaxis is not due to a certain definite single poison but to a group of chemically related substances. There is an analogy in the eosinophilia produced experimentally and that of asthma and trichinosis and vernal cartarrh in that there is an accumulation of these cells near portals of entry of these poisons, and in that while small doses of these poisons produce eosinophilia overwhelming doses do not.

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DIGESTIVE DISTURBANCES FROM A DIAGNOSTIC STANDPOINT.*

By D. L. HARRELL, M. D., Suffolk, Va.

The frequency of correct diagnosis in cases of digestive disturbance today, as compared with

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ten or twenty years ago, indicates progress and yet there is great opportunity for more progress.

Those who have studied post-mortem pathology, as well as other laboratory workers, have accomplished much by establishing many facts that aid in diagnosis. But those who have studied living pahtology (the real surgeons), observing what is really taking place in the individual during the progress of disease not alone in the organ which is expressing the complaint, but in all other organs associated have turned on a new light that enables the physician to see with greater precision and intelligence the pathology hidden from view. Through their skill and keen observation a greater future for diagnosis has been made possible.

Exploratory laparotomy and the removal of definite pathology acting as the real cause for the gastric syndrome have been followed by such marvelous results, that the consideration of digestive disturbances brings up the question of treatment. And a sound logical conclusion must be met at the earliest time possible before the physician's obligations to his patients are satisfied.

Cases that are amenable to surgical treatment according to the present day methods are, as a rule, more easily diagnosed than purely medical cases, for the reason we have so frequently seen the glorius results of surgery in well chosen cases, one naturally learns something more definite of the symptoms manifested in that particular case. Our observations are broadened, even unconsciously.

In many cases that prove to be medical, we do not find that positive, definite symptomatology to justify confidence in diagnosis and treatment, as in the surgical cases. No doubt the symptoms stand out bold and very plain but we are not familiar with the language in which they are spoken. We are poor interpreters, and too, if the case is a chronic one, the early symptoms have been so masked by secondary pathology or perversed physiological function, that the entire affair is disguised beyond recognition. The early history is the weakest plank in our diagnostic platform and no doubt demands more consideration now than any one phase in the field of diagnosis. It is a necessity that must be met, and the duty falls on the physician who sees the case first, most often the general practitioner. This is the time to get a history that embodies the first and foremost symptoms prevalent to the disease. Here hinges your diagnosis, treatment and prognosis. In time passed, I fear we have not appreciated our full obligation to the dyspeptic patient at this particular phase of the case, when a disease destined to become chronic and productive of early, prolonged invalidism, and possibly death, may be cut short and cured, if our full duty is well done.

"Full duty well done" implies more than a casual survey of the case for often what appears to be a trivial condition under careful study shows up something of consequence and importance even under the present methods of investigation. The time is opportune to improve our way of handling these cases. One weak plank in the platform, as already suggested, is urgently in the need of repair; namely, the early history of every case of disturbed digestion.

The men who devote full time to diagnosis seldom have the opportunity to get a full history of the early symptoms, because the average patient is not sufficiently observing to remember definite details. Many cases of chronic pyloric ulcer that really have spring and fall exacerbations do not admit it in the history; those that have found relief from food tell us that such is not the case, for the reason that years have lapsed since these were predominating symptoms and during this time other pathologial conditions have developed, manifesting their effect in the way of symptoms that disguise the trail until it is not possible for any one to follow. The relief of this situation is, and must be, in the hands of the general practitioner. Progress is always indicative of responsibllity and new obligations, so today the general practitioner of medicine faces a new era—one undeveloped and ripe with the measure filled to running over with opportunity for fame and profit to him who recognizes this chief function of becoming an investigator, an observer and recorder of facts about every patient possible: also constant study of these records, which should be classified and published with all important facts for the common good of the profession. They should be published as a result of *your* experience, observation and belief and not a recapitulation of what the other fellow has pub-

lished after reviewing the literature. Some of the recent authors such as John B. Murphy, Moynihan, McKenzie and others, have published volumes worthy of highest praise because one can see that personal observation is behind every statement. So the general practitioner of tomorrow must realize that a note-book for the purpose outlined is a far more important thing in his armamentarium than the prescription pad. Treatment is always fairly simple after a correct diagnosis is made.

There are many other ideas of importance in this connection; I will mention just one, namely, the importance of following every operative case to operation. Here you have the opportunity to witness with the surgeon what the living pathology shows, and to see the errors, if any, in diagnosis. A better idea will be gained that distinguishes more definitely the operative case from the medical. It will also give better judgment with reference as to when to operate. You will be a "life saver" for some of your patients that now come to operation too late. Today we have a patient on whom an exploratory laparotomy was done recently and a malignant condition of gall-bladder and pancreas was found. Condition was inoperable. A valuable human life has been sacrificed. His community has been robbed of his service fifteen years before he should be considered passed the period of activity. This very patient gives a history of several attacks of gall-stone colic about fifteen years ago. He was told that he had gall-stones, but his physician gave him medical treatment until the acute symptoms passed and then stopped the treatment. It is more than probable that operative treatment would have not only relieved his symptoms more promptly, but prevented the cancer from which he now suffers.

The question has been raised, what is to become of the general practitioner in a day when specialization is so popular? The answer is, arise, for the issue is before you.

A REPORT OF POMPHOLYX AND ERYTHEMA NODOSUM.*

By THOMAS W. MURRELL, M. D., Richmond, Va.

I would report no special case, but call attention to the peculiar incidence in my practice these last few months of two conditions,—pompholyx and erythema nodosum. Since I have seen in the last two months more cases of pompholyx than in the last year and more cases of erythema nodosum than I have in the last ten years, I have wondered if there may not have been some connection between these and the recent epidemic of influenza. It has further occurred to me that this prevalence may be true with other men, and a short discussion of these two conditions may be helpful.

Pompholyx is characterized by the appearance on the soles and palms of variously sized patches of vesicles. These vesicles start deep down in the skin and are felt at first, rather than seen. They rise to the surface and by coalescing, quite large areas of the skin may be exfoliated. The eruption at first only itches but, when the vesicles become pustular, there is considerable tension, the disease always crippling and sometimes totally disabling the patient. It is believed to be due to some nervous disturbance and I have depended on three remedies for treatment, viz.,

Three per cent formalin alcohol as a lotion, which is very drying; lycopodium as a dusting powder in the sock and in the shoe; argyrol, twenty per cent, on the pustules which are intentionally opened and cleaned with a saturated solution of boric acid.

Erythema nodosum is sometimes called erythema contusiformis, due to the fact that the eruption looks very much as a bruised, swollen tissue. It occurs on the skin and resembles gumma in the process of formation. All my cases have been among young women. The nodes feel boggy as though pus were present, but they never suppurate. This condition is also of unknown origin, but is believed to be toxaemic. The treatment most used is the salicylates, though it is probable the condition runs a self-limited course and the treatment is of scant value.

This disease is reported because, in all the cases referred to me, syphilis was the disease suspected by the attending physician.

17 *East Grace Street.*

*Read before the Richmond Academy of Medicine and Surgery, March 25, 1919.

WHEN WRITING ADVERTISERS, PLEASE MENTION THIS JOURNAL.

Proceedings of Societies, Etc.

Roanoke Academy of Medicine.

The annual banquet of the Roanoke Academy of Medicine, held at Hotel Roanoke on the evening of June 26th, largely in honor of the members of the profession from this city who volunteered for service in the war, was a most delightful affair and was attended by practically every member of the organization.

Dr. R. H. Garthright, of Vinton, was toastmaster, and besides the set speeches for the occasion, there were a number of impromptu addresses by various members of the profession, and many felicitous expressions were heard concerning the safe return of the twenty or more physicians who went to war, especially for those who were so fortunate as to see service in France.

Dr. Garthright delivered a short but spirited address, in starting the flow of oratory, and Charles D. Fox, orating on the subject of "Slinters," succeeded in keeping the doctors in a jolly good mood for several minutes.

Dr. L. G. Pedigo responded to the toast, "Here's to 'Words'—An Excellent Means of Camouflaging Thought." The physicians were not disappointed in the after dinner speech of Dr. Pedigo.

Dr. Tompkins answered to "The Doctor in Lighter Vein—May He Never Become Varicose nor Suffer Thrombosis." The address, while amusing, was full of thought, and one that will long be remembered by the medical fraternity of the city.

Among the pyhsicians present who have returned from the service, and in whose honor the spread was given were: Lieutenant Colonel Hugh H. Trout, Dr. L. G. Richards, Dr. J. Warren Kneop, Dr. T. Allen Kirk, Dr. A. P. Jones, Dr. C. O. Wolff, Dr. Spencer Speed, Dr. R. W. Brown, Dr. G. M. Maxwell, Dr. W. L. Powell, Dr. W. H. Saunders, Dr. E. H. Muse, Dr. F. A. Farmer, Dr. W. W. S. Butler, Jr., Dr. Paul Davis and Dr. Hugh Hagan.

The Loudoun County (Va.) Medical Society

Held its regular meeting at Leesburg, July 8, at which time the following were elected officers for the coming year:—President, Dr. J. E. Copeland, Round Hill; vice-president, Dr. L. T. Rusmiselle, Waterford; secretary, Dr. W. C. Orr, Leesburg.

Portsmouth Section, Norfolk County (Va.) Medical Society.

The Norfolk County Medical Society, through a special committee, has organized a Portsmouth Section which meets at the King's Daughters' Hospital, in Portsmouth, twice a month. The following officers were named for the section:—Dr. L. A. McAlpine, chairman; Dr. Vernon Brooks, vice-chairman, and Dr. J. W. Abbitt, secretary.

Richmond Academy of Medicine and Surgery.

The Academy of Medicine and Surgery of this city held a jubilee celebration at the Jefferson Hotel, on the evening of June 24, in honor of the returned doctors who had seen service in the world war. Major A. M. Dobie, of the University of Virginia, a member of Gen. Cronkite's staff spoke on "A Staff Officer's Tribute," and Dr. George Ross, of this city, extended a welcome to the returned doctors on behalf of the Academy. Wives and daughters of the members of the Academy were also invited and, after the addresses, dancing and refreshments were enjoyed by those present.

Address of Welcome to Returning Surgeons From Across the Seas.

By GEORGE ROSS, M. D. (U. Va.) C. S. A.*
Richmond, Va.

I thank you, Mr. Chairman, for your gracious courtesy in presenting me to this assemblage, and am honored at being thought by you still a willing worker in the ranks of our profession, *even* though the calendar charges me with having reached that period of life when the grasshopper is counted a burden. To my mind, this is an occasion when the heart should feel most, when the lips should move not, and the eyes beam fullness of love—love and admiration and profound reverence for you my patriot fellow-countrymen, whose splendid courage impelled you promptly to buckle on your armor and take your places in the ranks of that mighty host of warriors who were then, and had for years, been waging a relentless battle against the enemies of right and justice, and humanity and liberty, in a tragic war of which history has no duplicate record. As surely crusaders they are, as were

*Captain and Associate Medical Director, 3rd Corps, Army Northern Virginia, Lt. General A. P. Hill's Staff. Captain and Assistant Surgeon in charge V. M. I. Cadet Battalion, Battle New Market May 15, 1864.

the followers of the fortunes of the never-to-be-forgotten Richard of the Lion Heart. I am a symbolic link connecting you with another great war, waged for four years more than a half a century ago, in our own beloved country, for a constitutional right and its allied ideals. I am a veteran-member of the thinning ranks of that band of immortals that shall forever be known in the world's history as "Dixie Boys" who

Fought on battle fields uncounted,
Fought as men defeat undaunted,
Fought to throttle threatened wrong,
Fought while cheering Dixie's song,
Fought though weltering in gore,
Fought for land now named no more,
Fought to win a victor's crown,
Fought and won the world's renown.
Aye, fought for a young flag that went down in in defeat;
But 'tis wreathed around with glory,
And 'twill live in song and story,
Though its folds lie in the dust.

Tonight, it is my high privilege to welcome you home—to that home that you have conspicuously honored on many fields in foreign lands—to your own beloved home in far-famed Virginia—to the banks of her historic river, in whose waters angled in true primitive fashion with gaff and spear, the dusky warriors of that valiant Indian King, Powhatan, and on whose bosom the blood of her sons has been borne out to the ocean of eternity, to be forever an inspiration to the men of coming ages. I welcome you to her Capital City, near whose gateways mighty armies met in internicine conflict, and whose more than Rome-numbered hills have echoed and re-echoed the cannon's roar, as the sons of North and South, each *patriots* from *their* standpoint, made brilliant the record of American soldiery on the fields of Yellow Tavern, Seven Pines, Gaines' Mill, Cold Harbor and Malvern Hill. Thrice welcome to historic Richmond, where,

Collossal bronze statues grace the summit of hills,
And perpetually stand to proclaim,
To the men of all ages who love native land,
These were heroes who won the world's fame.

Aye, welcome to this Mecca of our beloved Southland, where,

In poem and song,
Men stand for the right, men frown upon wrong;
Where the stranger finds welcome to the best in the land,
Where unfeigned loyalty marks the grasp of the hand.

Yes, my young friends, never forget that an old soldier is prone to paint pictures of the past, and hence

Memories these of the days that are dead,
Buried in the long ago,
Days when our nation might well boast her men,
Days that tried them so.

Days when the South runs with heads lifted high,
Like the Appenine torrent unpenned,
Thrilled the world with the fame of the daring of men,
Thrilled the world with th fame of the daringBhat_B
Fighting hearthstones and homes to defend.

The County Socety.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. Your active co-operation is earnestly desired.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

EXECUTIVE COMMITTEE OF COUNCIL.

The recent meeting of this committee was probably the most important ever held in the history of the society, and the progressive work inaugurated at that meeting will go far towards increasing the effectiveness of the State and County organizations.

As far as lay in the power of the Committee, this publication, the official organ of the Society, was strengthened and developed, and it was arranged that a copy of each issue be sent to *every member of the Society*, between now and the October meeting, thus making it the means of easy and prompt communication between the State and County Societies and the individnal members.

Each Councilor was instructed to promptly get in touch with the counties in his district, stimulating the organized ones, rejuvenating those that are weak and listless, and forming permanent organizations where none have already been made.

A Special Committee was charged with most important and vital work, the details of which will be reported later. The scope of this work if carried out successfully, according to sug-

gestions of President Ennion G. Williams, will result in placing the Virginia Society in the forefront of the strongly organized State Associations of the country.

In the short time remaining between now and the state meeting in October, the editor of this department will make every effort to stir up active interest and enthusiasm on the part of the regular medical profession of Virginia in Medical Organization, and to that end invites the active, earnest and hearty co-operation of the individual doctors of the State.

Practically every other business, profession and trade in the State is *strongly organized*. Then why not the doctors? There is all to gain, and nothing to lose. The profession of the majority of the other states is reaping untold advantages from organization.

Briefly, what are these advantages?

Better medical laws, improved care of institutions, better control of sanitation and preventive medicine, proper compensation, co-operation and better feeling among doctors, and improvement in medical knowledge.

However much effort we bestow on the development of the State Society, its strength and success depend upon the development of its component County Societies.

Let us, therefore, earnest doctors of Virginia, make up our minds to organize, strengthen and develop a society in each county of the State. This appeal is intended for each one of you who read it.

If you have an organization already, get your secretary to call a meeting *at once*. If he will not do so, call it yourself. Get every reputable doctor to join and see that he pays his State dues.

If you have no society, organize one *at once*. It will do you good, will help the local profession, and will strengthen the State Organization.

This department will be glad to give full information and assistance at all times.

Watch for our message in the August number.

Southgate Leigh, M. D.

OPEN LETTER TO MEMBERS OF THE MEDICAL SOCIETY OF VIRGINIA.

At a meeting of the Executive Council recently held in Richmond, October 28-31 inclusive was fixed as the date for the annual meeting of the Medical Society of Virginia, in the Auditorium of the Jefferson Hotel, Richmond, Va.

The first session of the Society, as heretofore, will be held Tuesday night, October 28, at 8 P. M., when the president will deliver his address, followed by any popular addresses that may be scheduled, after which reports of officers and committees will be presented.

Owing to the amendments to the Constitution and the changes in the By-Laws, the management of the business affairs of the Society passes from the control of the Executive Council to a "House of Delegates," which will be organized for the first time and which is called to meet Tuesday morning, October 28, at 10 A. M., at the Jefferson Hotel, in a room to be assigned by the hotel manager. It is necessary that the House of Delegates should meet prior to the first session of the Society, for organization especially, and any other business that may be brought before it, as the By-Laws provide that the House of Delegates shall not meet during the session of the Society, unless absolutely necessary.

The House of Delegates is composed of one representative from each County or Component Society in the State, and an additional representative for a membership over thirty-five members or fraction thereof.

The attention of the County Societies is urgently called to the provision for this "House of Delegates," and secretaries are urged to see that their respective Societies are represented by their proper quota of delegates.

The Vice-Presidents, representing the grand divisions of the State, viz.: the Southwest, the Southside and the Piedmont sections, and the councilors, representing the ten Congressional districts, as well as the five Councilors at large, are invoked to lend their aid and influence in perfecting the organizations of the County Societies, and in seeing that each Society is represented in the House of Delegates.

Owing to the absence from the State, during the period of the war, of many of the Officers of the County Societies, especially the Secretaries, there has been but little activity in the Societies during the past year. It is especially to be desired that they shall meet and reorganize, and elect a representative and alternate,

or as many as their membership entitles them to, and forward their names to the Secretary of the State Society.

Forward as soon as possible a list of each County Society, the names and addresses of the Officers of said Society, and especially the Secretary.

It is hoped that the meeting in Richmond will be an attractive one in every way. Announcement cards calling for title of papers, will be sent out in a few weeks, and we feel confident that it will be a splendid meeting.

PAULUS A. IRVING, *Secretary.*

LETTER FROM THE PRESIDENT.

To the Members of the Medical Society of Virginia:—

With characteristic zeal the doctors in Virginia responded to the call of our country, and a large proportion were commissioned into active duty. The war is won and the peace treaty signed. Demobilization is taking place rapidly, and in a short time all the doctors can return to their homes.

As in every line of human endeavor great changes have occurred and are taking place, so we see in our own profession new conditions arising and radical changes are going on that will work for good or ill according to the directing hand of the profession itself. It is a time for closer association and stronger organization among the members of our profession. Now is the time for our Society to show the fullest extent of usefulness to the people of the State and to the members of the profession.

The new constitution goes into effect this year. It is exceedingly desirable that local societies be fully organized, and every medical man be actively associated with the other members of his profession in this community in developing the local society. The State Society is made up of representatives from the local societies. We trust that, in accordance with the constitution of the State Society, you will meet in the near future and elect delegates to compose the governing body of the State Society.

I trust that you will realize what a wonderful opportunity now exists to develop a great State Medical Society that will adequately represent the personnel of the doctors of Virginia.

ENNION G. WILLIAMS.

PRACTICAL WORKINGS OF COUNCILLOR SYSTEM IN N. C.

Norfolk, Va., June 17, 1919.

TO THE EDITOR:—Attending the recent meeting of the North Carolina State Society at Pinehurst, as fraternal delegate from Virginia, I was deeply impressed with the evidences seen on every hand, of the splendid system of organization, which appears to exist in that society.

The meeting was most successful and delightful. The papers read were of a high standard, and the discussions prolonged and thorough.

I felt it might be a good plan to bring back to the members of the Virginia Society some message which might be helpful to us. The success of the plan in North Carolina seems to depend on the splendid work of the individual councilors. I requested Dr. Way, President of the State Board of Health, a very eminent practitioner in North Carolina, and one well known to the profession in Virginia, to write me a letter to publish in our Journal. I take the liberty of enclosing this.

Very truly yours,

SOUTHGATE LEIGH.

Waynesville, N. C.,
April 28, 1919.

My Dear Doctor Leigh:—

Yours of late date making enquiry as to the practical workings of the Councilor system in the State Medical Society of North Carolina received. In reply I beg to advise that in actual practice it works finely, especially when a really capable man is made district councilor. It depends much on getting as councilor a physician of sufficient known professional standing as to be regarded with respect by the county societies he visits. Of course it requires both time and expense to make the visits to the counties, but it develops a fine spirit in the local profession, and the contact with the men of his district, their knowing him better, is in no wise a professional hindrance to the councilor who advisedly should be located in some of the larger cities available to all the counties of his district.

The councilor should also be a man willing to do the service for the profession, and a hearty believer in the good to be accomplished by keeping the men of our profession lined up in accord with the best ideals of the profession. Harking back to the days of 1902, and

the *status quo* of things medical in that period prior to the "re-organization" of the American medical profession, I am sure that any doctor conversant with conditions then and now, could not possibly desire a return to the unorganization of that day.

And yet until we have county societies holding regular meetings in the large majority of all the counties of a given state, we shall not have reached the full measure of benefits to accrue from the carrying out of the plan.

But why tell you of this? You came to the recent session of the North Carolina State Medical Society at Pinehurst, and you saw no less than four sections meeting simultaneously with full attendance in each hall; you witnessed the crowded auditorium at the general meetings of the Society, you noted the more than four hundred "tar-heel" doctors registered; you heard the fine papers, and listened to the keen, snappy discussions. Our State is without the big commercial and medical centers such as some of our sister States have (fortunately or unfortunately, I'm not quite sure), hence no county society in the State may have so large a membership as some of your counties, and yet our AVERAGE is fine. The *esprit de corps* of the Carolina profession is of the finest, and we attribute very much of it to the influence of good county medical societies.

A strong active councilor can help develop good county societies as no other possible influence. I regard the councilor's position as the one fraught with the larger limit of capacity to serve the local profession of a given section, and in no position in the State Society can the doctor of ability and purpose quite so well advance the interests of the masses of the profession.

I thank you for writing me, and I trust the Old Dominion, so often the proud leader in so many of the best things, is developing the county societies under the leadership of strong, willing councilors.

Jos. H. WAY,
Late Major M. C. U. S. Army.

A tourist while traveling in the north of Scotland, far away from anywhere, exclaimed to one of the natives, "Why, what do you do when any of you are ill? You can never get a doctor."

"Nae, sir," replied Sandy. "We hae to dee a naitural death."—*Exchange.*

Analyses, Selections, Etc.

Following up the Discharged Sanatorium Patient.

Sanatoria first began to trace their old patients in order to prove the value of the new treatment. At the close of the first ten years of the Gaylord Farm Sanatorium, David R. Lyman stated it was found that while it had cost $400,000.00 to maintain the institution during this period, the discharged patients had earned $1,339,000 during the same time. There can be no doubt that patients as a class do better if they return to their old work than if they try to find the "proverbially illusive light job out-of-doors." Two-thirds of the old Gaylord male patients were earning over $15.00 a week while the average for 344 who reportd was $21.37 a week. The average for the women was $10.20 a week. Very few patients reported that they had suffered any inconvenience or unpleasant experiences because of the phthisiophobia from their associates or fellow workmen. Lyman feels that keeping close track of all discharged patients is worth every effort and should be indefinitely expanded. One method that he particularly advocates is the employment of visiting nurses to keep in touch with those patients in their homes. He has the sanatorium nurse carry the work to the patient's home and begin the education of the home circle before the patient returns. After the patient is once more at home the nurse continues her visits indefinitely. The advantages of such a scheme are twofold: it procures more permanent results for the pateint; and it aids in amassing data on housing, living and industrial conditions, which are the recorded observations of trained investigators and not the haphazard replies of those who look upon questionnaires as nuisances, impertinences, or both. (*American Review of Tuberculosis*, 1918, Vol. 2, No. 10.

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All correspondence regarding editorial matters, articles, advertisements, sucscription rates, etc., should be addressed to the Journal.

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Editorial.

The Ophthalmologist and the Internist.

Before the Section on Ophthalmology, at the last annual meeting of the A. M. A., Atlantic City, Dr. Lewis,* of Buffalo, read a paper entitled "Group Study: a Necessity in Ophthalmic Research," which well merits the thoughtful consideration of ophthalmists as it emphatically demands the study of physicians and surgeons, as well as other specialists.

Lewis clearly points out the position of the ophthalmist when he says, "the break in the current by our isolation into narrowly defined specialties is the essential cause of the failure of medicine to occupy the dominant position to which it is entitled," also "in a vast proportion of the cases that come under the observation of the ophthalmologist, there is no possibility under present methods of associating his observations with complete physical examinations and laboratory findings." He also says that "we, then, as ophthalmologists, are obliged to admit that our most careful examinations are limited and insufficient."

He makes also the "broad general statement, which is startling when its import is fully realized," with few exceptions the most serious inflammations and degenerative intraocular diseases find their origin outside of the eye, and in the large majority of cases in tissues that do not come within the field of the ophthalmologist's explorations." To show in concrete form the need for a great readjustment in the study of medical cases he draws attention to only one large factor in causes of diseases of the eye. He calls attention to the etiologic relation of what the internist has been for some years now laying great stress upon, not only in relation to the eye, but joints, heart, kidney, blood, stomach, liver, etc., and that is oral focal infections.

He cites 76 cases of eye lesions associated with alveolar infection to show this etiologic relationship.

The eye-sight, the effect upon the vision, the pain associated with acute lesions of the eye, cause patients to seek first the services of the ophthalmologist. It is indeed a hopeful sign when this class of specialist feels that the cause of the eye condition in a large proportion of cases is intimately connected with internal diseases.

*Read; Lewis, J. A. M. A. June 28th, 1919, page 1893.

Medical College of Virginia Men Receive Diplomas.

The Medical College of Virginia, Richmond, opened its final exercises for the year 1918-1919 on June 15, with the baccalaureate sermon at the First Presbyterian Church by Rev. F. T. McFaden, D. D. The regular meeting of the Board of Visitors and the annual meeting of the Alumni Association were held the next morning, and these were followed by a luncheon at the College Building at 2 p. m.

"What the Medical College of Virginia Has Done in the Great War" was the subject for general discussion at the Alumni meeting and there were a number of speakers from among those who saw service in the various departments.

On Tuesday, the 17th, clinics were held at a number of the local hospitals.

On Monday evening, at the Academy of Music, graduates of the School of Nursing of Memorial Hospital, as well as graduates of the three departments of medicine, dentistry and pharmacy were awarded their diplomas. There were twenty graduates in the department of medicine, thirty-five in dentistry and thirteen in pharmacy. Dr. S. C. Mitchell, former president of the Medical College of Virginia but now president of Delaware College, delivered the address to the graduating classes, and Dr. Stuart McGuire, the new president of the College, conferred degrees. In the

short address given by Dr. McGuire, prior to awarding the diplomas, he announced that a donation of $5,000 had been anonymously made to aid in the purchase of the home for nurses on Tenth Street, for which purpose a total of $60,000 has to be raised.

Hospital appointments were as follows:—

Memorial Hospital, Richmond—Dr. Frank Leonard Ray, Wake Forest, N. C., and undergraduates, J. F. Edmonds, H. L. Mitchell, A. D. Ownbey, C. E. Stump.

St. Luke's Hospital, Richmond—Dr. Stuart Donald Scott, Monroe.

Johnston-Willis Sanatorium, Richmond—Drs. Jas. Fairfax Fulton, Staunton, and Howard Russell Masters, Fredericksburg.

Stuart Circle Hospital, Richmond—Drs. John Grady Booe, Cana, N. C., and Willard Milo Strickland, Wendell, N. C.

Grace Hospital Richmond—J. G. Lyerly (undergraduate).

Retreat for the Sick, Richmond—Dr. Peyton S. Lewis, Richmond, and J. W. Shawver (undergraduate).

City Home Hospital, Richmond—W. B. Cannon, H. R. Huston, T. C. Sheridan (undergraduates).

Sheltering Arms Hospital, Richmond—F. M. Leech and R. S. Wingfield (undergraduates).

Home for Incurables, Richmond—O. O. Ashworth (undergraduate).

City Jail Hospital, Richmond—W. C. West (undergraduate).

Virginia Hospital, Richmond—Dr. Chas. Lee Nance, Peachland, N. C., and undergraduates Z. P. Mitchell and J. E. Smith.

Tucker Sanatorium, Richmond—Dr. Robt. Hull Courtney, Lenoir, N. C., and H. W. Kline (undergraduate).

Catawba Sanatorium, Va.—Dr. Frank Buchanan Stafford, Thessalia.

Southern Pacific General Hospital, San Francisco—Dr. Robt. Dennis Caldwell, Lewisburg, W. Va.

Stetson Hospital, Philadelphia—Dr. Earl Eugene Pittman, Falkland, N. C.

Others receiving their diplomas in medicine were:—Drs. John Richard Cain, Portsmouth; Henry Walker Decker, Lahore; Amos Carson Duncan, Bostic, N. C.; Thurston Formy-Duval, Whiteville, N. C.; Arthur Marion Gates, Ararat; Frank Wilson Gearing, Woodstock; William Clyde Oates, Grover, N. C., and Neilson Hampden Turner, Richmond.

American Medical Association.

The meeting of the American Medical Association in Atlantic City, this year, measured up to its past records of interest and pleasure in that famous resort. The usual number of society and fraternity meetings were held during the time of the A. M. A. convention. The entertainments were attractive and enjoyable as usual with golf tournaments for devotees of that sport. There were a large number of papers which were both interesting and of scientific value. The commercial exhibits attracted much attention.

Aside from the numerous exhibits of the Army and Navy, there were about 25 or 30 scientific exhibits. The committee in charge of making awards, decided rather to lay emphasis on excellence of individual effort than on exhibits of large organizations, such as government departments, representing an extensive corps of unnamed workers.

To Dr. H. S. Warthin was awarded the gold medal for a very excellent and thorough study of "Mustard Gas." With this were about 150 illustrations. The work of Noguchi, to whom was awarded the silver medal, was original on Yellow Fever and comprised microphotographs of the spirillum of yellow fever, post-mortem specimens and a dissected monkey in which the disease had been experimentally produced.

The exhibit of the Mayo Clinic consisted of three parts: (1) X-ray of lesions of stomach and intestines, (2) Work on the thyroid by Kendall, (3) Work on fatty pulmonary embolism by Bissell. The exhibit made by Dr. J. Shelton Horsley, of this city, consisted of about 25 drawings illustrating six operations on the stomach and intestines, based on physiology of the gastro-intestinal tract. These last two were awarded certificates.

The total attendance at this meeting was 4,929, Virginia being represented by 111 doctors. Drs. W. E. Anderson, Farmville, and Southgate Leigh, Norfolk, represented this State in the House of Delegates.

New Orleans was selected for the 1920 meeting and the following officers were elected:—President-elect, Admiral Wm. C. Braisted, Surgeon General U. S. N., Washington; Vice-Presidents, Drs. David L. Edsall, Boston; Emery Marvel, Atlantic City; Eugene S. Talbot, Chicago, and Geo. H. Kress, San Fran-

cisco; Secretary, Dr. Alex. R. Craig, and Treasurer, Dr. Wm. A. Pusey, both of Chicago, and re-elected.

News of M. C. Officers.

Dr. O. A. Weatherly, formerly of Raven, Va., has received his discharge from the service and is now associated with Dr. W. R. Williams at the Mattie Williams Hospital, Richlands, Va.

Dr. William F. Porter, a member of the Medical Society of Virginia, who was located at High Coal, W. Va., prior to entering the service, has received his discharge and is at present at Bardstown, Ky. He was connected with the surgical service overseas in Evacuation Hospital No. 1.

Dr. Francis W. Upshur, after two years' war service in the Navy, has resumed his practice and is located at 1001 West Franklin Street, this city.

Dr. O. C. Brunk, who served in France with the medical corps of the army, has returned home and resumed his practice in this city.

Lieut. A. C. Sinton, Jr., U. S. N., after spending a few days with his parents in this city, left the latter part of June, to join his ship, the Minnesota, which sailed from Old Point for Brest.

Dr. F. K. Travers Warrick, who was regimental surgeon in the 111th Virginia field artillery, after over three years on the border and in foreign service, has returned to this city and is located at 1816-A West Grace street.

Maj. W. Cabell Moore, of Washington, but a native of this State, has been promoted to the rank of lieutenant-colonel in the army medical corps. He has been acting as chief medical adviser for the third army occupying Coblentz, Germany, for several months.

Maj. William D. Scott, Baltimore, arrived from overseas and was mustered out last month. He visited his old home in Fredericksburg, Va., before again taking up his work in Baltimore.

Dr. J. S. Weitzel has received his discharge from the service and resumed his work in this city. He is located at Professional Building and will limit his practice to diseases of children.

Dr. C. Howard Lewis, who was the head of Ambulance Company No. 319, which was organized in this city, has returned and taken up his practice again.

Major Horace T. Hawkins, formerly of this city, but who was practicing at Irvington, Va., at the time of entering the service, returned from overseas last month. He is located at Meherrin, Va.

Maj. Claude C. Coleman, of this city, who has filled the position of chief of the Neuro-Surgical Service at General Hospital No. 11, Cape May, N. J., since January, has been transferred to General Hospital No. 41, Staten Island, N. Y., as the Cape May Hospital is to close this month.

Dr. Frank L. Wysor, recently returned from France, visited his old home at Clifton Forge, Va., in June.

Dr. Claude N. Rucker has returned to his home in Clifton Forge, Va., where he will resume his practice. He was slightly wounded while in France.

Dr. Dandridge P. West has just returned to his home in Norfolk, Va., after a year's service in the army, having been located at Base Hospital, Camp Taylor, Ky., the whole time. His work was in the department of internal medicine and, for the last six months' of his stay in the Hospital, he was internist on the Disability Board.

Dr. Carroll H. Iden has received his discharge and resumed his practice in Berryville, Va.

Dr. Joseph E. Seebert, formerly of Tamroy, W. Va., after two years' service with the British Army, has located in Lexington, Va. In June, he was married to Miss Frances Kirby Brown, of New York.

Councilors of Medical Society of Virginia.

Your attention is called to a letter in this issue of the *Monthly* from Dr. Southgate Leigh, fraternal delegate of the Medical Society of Virginia to the North Carolina Society, which held its last meeting at Pinehurst. We beg the members, including the officers of the Society, to read Dr. Way's letter. After all is said, every society must depend for success upon administrative machinery of the organization. Its officers—President, Vice-Presidents, Secretary-Treasurer, and Councilors—must carry forward the work. Upon them, the membership depends for the life and progress of the Society.

The Councilors are urged to throw enthusiastic effort into the work of reorganization of the local societies in their districts, by making personal appeals to the officers of these local societies during the summer to have meetings; to visit these society meetings and make strong appeals for interest in the work and urge local members to select delegates to the House of Delegates.

The next meeting of the Medical Society of Virginia will be at Richmond, Oct. 28, 29, 30 and 31. This is the fiftieth year of the Society's existence and, being the first meeting after the close of the world war, this Society must make every effort to measure up to the demands of a strong and successful state organization of medical men to carry forward the purposes of the Society.

These purposes, as given in the Constitution, are collection, diffusion, interchange and presentation of medical knowledge in the State of Virginia, the elevation of the standard of medical education, the promotion of fraternal relation among its members, the association of the medical profession of the State under one coherent and co-operative administration, the securing of the enactment of just medical laws, and the enlightenment of the public in regard to the problems of State medicine.

Danville Hospitals to Be Enlarged.

It has been announced that the Danville (Va.) General Hospital will make an addition of one story to one wing and build a three-story addition, so as to provide accommodations for 25 more patients and a new operating pavilion. The work is to cost $25,000.

Dr. T. W. Edmunds also announces that a nurses' training school will be opened in the Edmunds Hospital September 1. Additions are now being made to this hospital. When completed, it will have a nurses' home and a capacity of forty beds.

Next Meeting of Medical Society of Virginia.

Prepare now for the Fiftieth meeting of the Medical Society of Virginia which occurs in Richmond, October 28th, 29th, 30th and 31st, at Jefferson Hotel.

It is the hope of everyone that this shall be a large and successful meeting—when a scientific program of interest may be enjoyed; when old acquaintances and friendships may be renewed; when new inspiration and enthusiasm may gather for the new work that awaits the members.

Committee of Arrangements for Richmond Meeting, Medical Society of Virginia.

The same committee of arrangements appointed by the Richmond Academy of Medicine and Surgery for the meeting of the Medical Society of Virginia, which was to have been held in this city last Fall, holds over for the October, 1919, meeting and is as follows:—Dr. P. W. Howle, chairman, and Drs. Chas. V. Carrington, St. George Grinnan, A. M. Willis, Beverley R. Tucker, W. A. Shepherd, J. Allison Hodges, Robert C. Bryan, Stuart Michaux, Alexander G. Brown, Jr., Thomas W. Murrell, Ennion G. Williams and Virginius Harrison, the last two being ex-officio members.

American Surgical Association.

At the recent meeting of this Association, Dr. George E. Brewer, New York, was elected president, and Dr. John H. Gibbon, Philadelphia, secretary. The next meeting is to be held in St. Louis.

Richmond Doctors Taking Post-Graduate Course.

Drs. R. E. Mitchell and Sydney J. Baker, both of this city, left June the 28th, for Boston, to spend the month of July in taking a post-graduate course on Physical Diagnosis, under Dr. Richard C. Cabot.

Fredericksburg Hospital Receives Bequest.

Mrs. Sue M. Smith, of Florida, formerly of Fredericksburg, Va., in her will left $500 to the Mary Washington Hospital, Fredericksburg, Va., to be appropriated as directed by the Board of Directors of the Hospital.

Dr. Henry S. Stern,

Who was formerly with the Richmond Health Department, and recently returned from France, left last month for New York, to spend some time studying in clinics for diseases of children.

Dr. B. E. Harrell,

Formerly connected with Jefferson Hospital, Roanoke, Va., but more recently with the Urological Service of the Base Hospital at Camp Jackson, is now located in Norfolk, where he is limiting his practice to urology.

Dr. Archibald C. Randolph,

Bluemont, Va., suffered severe injury in June, when his horse fell in attempting to take a hurdle at the Leesburg Horse Show.

Married—

Dr. Morton Elbridge Hundley and Miss Lucy Brown, both of Martinsville, Va., June 18. Before returning from his wedding trip, Dr. Hundley purposes spending some time in post-graduate work in New York and at the Mayo Clinics in Rochester, Minn., preparatory to opening a modern hospital in Martinsville.

Dr. John Buckner Winfield, Clarksburg, W. Va., and Miss Elsie Nolting, in Baltimore, Md., July 1.

Dr. John A. Hawkins and Miss Ann Louise Lovelace, both of Danville, Va., July 3.

Dr. John R. Cain, of Portsmouth, Va., but a recent graduate of the Medical College of Virginia, and Miss Loretta McKinney, Athens, Ga., a nurse at Virginia Hospital, this city, June 20. Dr. Cain expects to practice at Devon, W. Va.

Dr. William R. Weisiger,

Of this city, who recently returned from army service, will go to New York about the first of July, to take up the study of eye, ear, nose and throat diseases at the Post Graduate Medical School and Hospital.

Col. Richard P. Strong, M. C.,

Of Cambridge, Mass., has been appointed acting director of the Bureau of Hygiene and Public Health of the League of Red Cross Societies. He has been connected with the medical work of the war since 1915.

Vocational Training to Be Given Disabled Men.

A bill has been passed by Congress appropriating $6,000,000 in order to give soldiers and sailors disabled by war the opportunity of taking courses in vocational training at government expense. It is estimated that 7,000 men will take advantage of these courses during the coming year. The men will be paid salaries while being educated—$80 per month being the compensation for a single man and $100 per month for men with dependents in addition to the government family allotments.

American Pediatric Society.

At its recent meeting in Atlantic City, Dr. Thomas Southworth, New York, was elected President of this Society for the coming year, Dr. Alfred Hand, Philadelphia, Vice-President, and Dr. Howard Childs Carpenter, also of Philadelphia, Secretary.

Dr. Roshier W. Miller,

Of this city, is enjoying a vacation in Pennsylvania.

Dr. F. F. Davis,

Of Gloucester County, Va., was a recent visitor in West Point, Va.

Dr. W. M. Revercomb

And family of Clifton Forge, Va., paid a short visit to friends in Highland County, Va., in June.

Hospital Internes Enter Private Practice.

Dr. Harry B. Hinchman, who has been chief resident physician at Virginia Hospital, this city, has entered private practice in this city.

Dr. F. W. Gearing, who has also been at Virginia Hospital, has left for his home in Woodstock, Va., where he will practice his profession.

Radium to Be Used at Danville (Va.) Hospital.

Drs. E. H. Miller and J. M. Robinson, of Danville, Va., have purchased $40,000 worth of radium, which is about the size of a match head. This they purpose using in the treatment of cancerous growths.

Health Resort for Babies.

A project has been launched in Patrick County for the erection of a modern hotel at Stuart as a health resort for babies. It is purposed to raise $50,000 for this and a large part of the stock has already been subscribed. Dr. George T. Divers is president, and Dr. W. C. Akers, vice-president, of the company.

Registrar of University of Va. Resigns.

At the meeting of the Board of Visitors of the University of Virginia, in June, Mr. Howard Winston, after a service of sixteen years, tendered his resignation as registrar. It is understood that he will be placed upon the Carnegie Foundation.

Dr. J. Fulmer Bright

Returned to his home in this city about the middle of July, after an automobile trip through Northern Virginia and Maryland.

Dr. Thomas M. Taylor,

Surgeon at the State Farm, Lassiter, Va., was a recent visitor in this city.

Dr. and Mrs. John O. Boyd,

Roanoke, Va., have recently been visiting relatives in Winchester, Va.

Dr. S. E. Weymouth,

Callao, Va., has been elected president of the Callao State Bank, recently organized in that place.

Dr. Samuel Saunders, Jr.,

Formerly of this State, but who has been working in the department of U. S. Public Health Service for several years, is at present engaged in visiting various State Hospitals, assisting in the investigation of the value of prophylactic vaccination against pneumonia.

Dr. J. W. Marshall,

Recently of Waterford, Va., has moved to Leesburg, Va., where his practice will be limited to diseases of the eye, ear, nose and throat.

Nurses Graduate.

The Chesapeake and Ohio Hospital School for Nurses, Huntington, W. Va., held its graduating exercises on the evening of July the first, at which time six young women received diplomas. Following the addresses of the evening, Miss Learned, superintendent of the Hospital, administered the Nurses' Oath. Dr. W. T. Oppenhimer, Richmond, Va., chief surgeon of the C. & O. Railway, presented the diplomas, and Dr. W. E. Vest, internist of the Hospital, presented the pins.

New Hospital at Princeton, W. Va.

Drs. E. F. and C. C. Peters, of Maybenry and Princeton, W. Va., and G. L. Todd, Princeton, have opened a 50-bed hospital at Princeton.

Dr. T. H. Massey,

Who was temporarily at Morrisvale, W. Va., after returning from army service, is now located at Smithfield, Va.

Dr. E. W. Robertson

Has returned to his home, Onancock, Va., after spending a few days with his son, Lieut. John W. Robertson, M. C., at Eastview, N. Y.

The American Medical Editors' Association,

At its meeting in Atlantic City, last month, elected the following officers:—President, Dr. Seale Harris, Birmingham, Ala.; Vice-Presidents, Drs. Franklin H. Martin, Chicago, and H. S. Baketel, New York; Secretary, Dr. Joseph MacDonald, Jr. (re-elected), New York City. Drs. Geo. W. Kosmak and E. H. Lewis, of New York City, and D. S. Fairchild, Clinton, Iowa, were elected members of the Executive Committee.

The George Washington University Medical Society,

Washington, D. C., at its annual meeting, elected Dr. William J. Mallory president: Dr. D. L. Borden, vice-president: Dr. Frank A. Hornaday secretary, and Dr. E. W. Titus, treasurer.

Dr. John W. Carroll

And family, of Lynchburg, Va., have been recent visitors at Mountain Lake, Va.

Dr. and Mrs. Paul E. Redd,

Of this city, spent a short time at Virginia Beach early this month.

Dr. Peter Winston,

Farmville, Va., spent some time in Staunton, Va., the latter part of June.

High Percentage of Discharged Men Healthy.

More than 93 per cent. of the 2,000,000 officers and men of the army, who have been demobilized since the signing of the armistice, were discharged with a clean bill of health, according to statement made from the office of the Surgeon General of the army. Six per cent. of the men were reported to the Bureau of War Risk Insurance for disabilities and 1 per cent. were held on account of communicable diseases, under-development or other causes.

Negro troops showed a slightly better physical condition than the white, but a higher percentage were held for communicable diseases.

Dr. R. M. Kilgour,

Formerly of Bluemont, Va., is now located at Round Hill, Va.

Dr. B. B. Bagby

Was chairman of the reception and entertainment committee, which prepared for the meeting of the Virginia Press Association in West Point, Va., July 17 and 18.

Drs. Sloan and Gill.

Drs. Henry L. Sloan and Elbyrne G. Gill, both of whom were until recently located in New York City, have just opened offices in Roanoke, Va., and will limit their practice to diseases of the eye, ear, nose and throat.

Dr. Emily C. Runyon,

Of this city, is spending sometime in Connecticut, after which she expects to visit in the Blue Ridge Mountains.

Dr. and Mrs. J. Wilton Hope,

Hampton, Va., accompanied by their children, visited relatives in Winchester, Va., recently.

Dr. and Mrs. R. M. Taliaferro,

Lynchburg, Va., were visitors in this city in June.

Paris Doctors Increase Rates.

The doctors of Paris have decided that they will double their pre-war charges for day visits and treble them for services at night. It is also announced that an organization has been formed with the purpose of establishing permanent relations between American and French physicians and surgeons.

One of the commissions of this organization will have in charge the establishment of a course of teaching for American physicians visiting France; another the founding of a bureau of information; and a third will examine into means of organizing an exchange of articles on medical and surgical subjects between the journals of the United States and France.

Dr. Lewis M. Allen,

Gaylord, Va., has been elected vice-president of the Board of Directors of the Clarke County (Va.) Horse and Colt Show. This show is annually one of the social events in that section.

Dr. P. B. Barringer,

Of Charlottesville, prominently known in this State as a physician and educator, early this month conducted a series of lectures in Williamsburg, Va., under the auspices of the summer school. The special aim of these lectures is to secure the co-operation of the teachers of Virginia with the State Board of Health in their attempt to better health conditions, especially in the rural districts.

Dr. and Mrs. Louis K. Walker,

Ahoskie, N. C., who were visiting in Northumberland County, this State, returned to their home early this month.

Dr. Lawrence T. Price,

Richmond, Va., was elected president of the V. P. I. Alumni Association, at its annual meeting held at Blacksburg, Va., June 30.

New Ruling on Dispensing Narcotics.

Drug addicts may not obtain narcotics on physicians' prescriptions, merely to relieve the suffering caused from lack of the drug, under stringent regulations issued by the Bureau of Internal Revenue governing the quantity which may be ordered by physicians.

It was possible under the old regulations for a physician to prescribe "more than is apparently needed to meet the needs of a patient in the ordinary case," if he stated on the prescription the purpose for which the unusual quantity was to be used. This privilege is now revoked.

Principal Causes of Death.

Nearly one-third of all deaths in the death-registration area of the United States, in 1917, were caused by heart diseases, pneumonia and tuberculosis, according to the Census Bureau's annual report. During that year, there were from all causes 1,068,932 deaths.

Deaths due to all external causes—accidental, suicidal and homicidal—numbered 81,953. The greatest number of deaths due to any one accidental cause was 11,114 due to falls. There were 6,724 deaths from automobile accidents in 1917. The rate from these accidents has risen rapidly from year to year, but not so rapidly as would seem indicated by the increase in the number of automobiles in use.

Dr. Edgar L. Lawrence,

Until recently of Floyd, Va., has moved to Roanoke, Va., where he is engaged in practising his profession.

Dr. P. G. Hundley,

Pembroke Va., has sold out to Dr. James W. Miller, of Simmonsville, Va., who will move in the first of August.

Dr. Hundley leaves later in the month for Baltimore, where he will be connected with the obstetrical department of the University of Maryland.

Dr. W. M. Phipps,

Formerly of Independence, Va., since his discharge from the army, has located at Newport, Va.

Dr. Hamilton J. Slusher,

Formerly of Boissevain, Va., is now located at New Market, Maryland.

Dr. W. D. Sydnor

Has been re-elected mayor of Hamilton, Va.

Dr William F. Williamson,

Who is spending his vacation with his mother in Alexandria, Va., will be located at 29th and Broad streets, this city, after September the first, and will limit his practice to obstetrics and pediatrics.

American Red Cross Continues its Good Work.

Fifty carloads of surgical dressings were sent from Red Cross Headquarters in Paris to Roumania, recently, where the Red Cross Commission found the hospitals almost destitute of supplies. Also, ten Red Cross ships have landed millions of pounds of supplies in Roumania. It is admitted by everyone in Roumania, from members of the royal family down to the humblest classes, that America's practical help came just in time and saved Roumania from starvation and the spread of typhus. While typhus is still prevalent in parts of Roumania, American doctors and nurses appear to have the situation well in hand.

Although typhus is gaining ground in parts of Serbia, there is not so much destitution in that country as there was six months ago before the Army Food Mission and American Red Cross began their joint campaign in that country. According to the Governor of Macedonia, the American Red Cross has saved from actual starvation more than 50,000 people in that country in the last five months.

Delay in Issuance of Journal

For this month has been due, in part, to a local strike among the jobbing printers. We hope, however, matters are now straightened out and we will have no further trouble along this line.

Wanted—

A good young doctor as assistant in coal field practice. Apply to Dr. D. A. Dunkley, Tom's Creek, Va. (Adv.)

Wanted—

Experienced physician desires location. Would enter as partner with a physician. Address "X. Y. Z.," care this journal. (Adv.)

Obituary Record.

Dr. Emmett Robertson Bradley,

Of Highland Springs, Va., died July 10, after a long illness. He was 29 years of age, and was a graduate of the Medical College of Virginia in 1912. Prior to locating at Highland Springs, Dr. Bradley practised medicine in Charles City County, Virginia. The interment was made near his old home in that county. He is survived by his wife, mother and a sister.

Dr. Richard F. Taylor,

A widely known physician of Amelia County, died at his home in Mannboro, Va., June 18, after a short illness with pneumonia. He studied medicine at the former University College of Medicine in this city, from which he graduated in 1897. Dr. Taylor was 42 years of age. He is survived by his widow and a large family connection. The interment was made in Richmond.

Dr. Abraham Jacobi,

Of New York City, one of the best known and most beloved doctors in this country, died at his summer home on Lake George, New York, July 10. He had apparently been in good health to the day of his death. He was born in Germany 89 years ago, but came to this country as a young man. He was a specialist in the diseases of children and was emeritus professor of diseases of children in Columbia University, College of Physicians and Surgeons. He was an ex-president of the American Medical Association.

Dr. Thomas Henry Becker,

Bluefield, W. Va., died suddenly June 8, in Philadelphia, to which place he had gone to attend a meeting of the Jefferson Medical College Alumni Association. He was 34 years of age and had graduated from Jefferson College in 1911. He was connected with the Bluefield Sanitarium.

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Original Communications.

DIFFUSE SUPPURATION IN THE WALLS OF THE CECUM AND ASCENDING COLON WITHOUT PERFORATION.*

By J. W. HENSON, M. D., F. A. C. S., Richmond, Va.
Associate Professor of Surgery, Medical College of Virginia; Surgeon on the Staff of the Memorial and Virginia Hospitals.

A report of the history and pathological findings of this case will be in order first, thus providing for a better appreciation of points discussed by the writer.

Case.—O. L., white male, aged 26 years, of German birth, laborer at Richmond Cedar Works, admitted to hospital, June 11, 1918.

Family History.—Father and mother living and in good health.

Past History.—Only sickness he remembers as a child was an abscess under the chin, probably from adenitis. Has not been sick since until about three years ago began to have pains, cramp-like in character, in right lower quadrant of the abdomen. These attacks of pain would last for a few minutes or a few hours, and would come at intervals of a month or may be six months. He also had some pain in the abdomen after almost every meal, less severe, of course, than the pain in the attacks just described. Two or three weeks ago had an attack more severe than any he had experienced before. The pain was different (not cramp-like in character) and not localized to the lower right quadrant entirely, but extended across the abdomen to some extent. There was also soreness which he does not recall having had before. He was sick in bed a week this time with the pain and soreness. Was never sick enough to stop work before. After this week of sickness, he got up and went to work for a week. The pain and soreness were still there, though less. His doctor advised him to come to the hospital for an operation, as he probably had appendicitis.

Physical Examination.—Negative except patient was thin and very anemic in appearance, and tenderness with rigidity over the head of the cecum was quite evident.

Diagnosis.—Chronic appendicitis.

Urinalysis	Blood	
Color—Straw.	Leucocytes	9.000
Transparency—Cloudy.	Polys.	70
Specific Gravity—1012.	Large Lymphs..	6
Reaction—Acid.	Small Lymphs...	22
Microscopical Examination—Negative.	Basophiles	.5
	Eosinophiles ...	1.5

On June 15, 1918, I operated upon Mr. L., fortunately making a right rectus incision. The cecum and greater part of the ascending colon on palpation felt like a bologna sausage. There were no adhesions. The surface, particularly that of the cecum, was red somewhat like an inflamed mucous membrane. The appendix was free but thickened and indurated. The lymphatic glands were enlarged in the lower part of the mesentery and in the meso-colon, as far up as the head of the pancreas. There were no places in the cecum or colon that presented any fluctuation. The whole surface of the mass was firm, so much so that while an inflammatory condition was considered probable, I suspected carcinoma. The specimen was taken to the laboratory before the operation was completed without my knowledge and, of course, before I had a chance to inspect it. Those working in the laboratory, among them Dr. S. W. Budd, also thought, when they saw and felt it, that it was a carcinoma.

Operation.—The last three or four inches of the ileum, the cecum, ascending colon, and two or three inches of the transverse colon were removed, not only to get well beyond involved tissue in the gut, but to reach all the glands in the mesentery and mesocolon. An end to side anastomosis was made between the ileum and the transverse colon. The peritoneum was stitched over the raw surface left by removal of the gut.

Gross Examination of the Specimen After Removal.—Incision into the wall at almost any point revealed pus. Epithelial surface of mucous membrane seemed intact.

*Read before the meeting of the Southside Virginia Medical Association, at Petersburg, June 24, 1919.

Microscopic Examination.

Mucosa.—Round cell infiltration in the deeper layers. Individual cells swollen and granular. Goblet cells much in evidence.

Sub-Mucosa.—Diffuse infiltration; abscess areas varying in size from a pin head to a pea.

Muscularis.—Infiltrated but not excessive. Muscular fibres swollen and granular.

Serosa.—Much thickened, infiltrated and presenting fresh granulations in sections made in the red areas.

Several microscopic sections were made from various parts of the specimen without any light being thrown upon the fundamental cause of the condition. The pathologist was asked to try again and look for evidence of tubercular infection. Many more sections were made of the walls of the gut and some of the enlarged glands. Typical tubercles were at last found in both locations, thus clearing up the etiology.

Post Operative Clinical Notes.

June 16, 1918. The day following the operation, no nausea, no pain, no elevation of temperature, pulse normal, abdomen flat. These comments would apply practically to each day succeeding the operation until the patient was discharged in good condition on July 13, 1918.

The patient was very anemic and weak and, as he had no one at home to look after him. he was kept in the hospital four weeks after the operation to be strengthened by tonics and feeding.

He returned to work about six weeks after being discharged and has continued to improve in strength, flesh and color. Since the operation he has had a good appetite and good digestion, whereas before the operation he had little appetite and his digestion was very bad. He now weighs 130 pounds, whereas his former weight was 115 pounds or less.

Review of the Findings.—In spite of diffuse pus in the walls of the gut there were no adhesions and the mucous membrane was intact. No pus germs or products had reached the peritoneal surface or there would have been adhesions. Sometimes when we open the abdomen and locate a tubercular process in some part of the intestinal tract, we find adhesions to adjacent coils or other viscera even if there be no secondary pyogenic infection and sometimes these adhesions are very numerous and hard to deal with.

If secondary infection has taken place, the rule is to find a pocket of pus surrounded by intestinal coils and adhesions in abundance. In the wall of some coil limiting this pocket will be found a break leading to the original focus. The rampart of round cells disclosed in the examination of this specimen probably explains why in this case the infection had not reached either the mucous or peritoneal surface, though the pus had infiltrated the walls of the cecum and greater part of the ascending colon. The low leucocyte count would further support the view that the firmness of the round cell wall limited the advance of the pyogenic infection and the absorption of toxins. The prolonged slow absorption of toxins, however, had given the patient a pronounced anemia.

The fact that his symptoms differed in character in the three or more weeks just preceeding the operation would argue that probably the pyogenic infection had not been present before. Note in his history that about three weeks before entering the hospital he had been compelled to go to bed, which he had never done before and that he had soreness which was never present before and that his pain differed in character and extent from his former pains. Had he gone a few weeks longer without relief by surgical means, the round cell rampart would have yielded and there would have been both pyogenic and tubercular infection outside the wall of the gut with abundant adhesions involving many coils of intestine.

This case is not reported because it was a successful colectomy. Removal of the cecum and ascending colon is being done for a number of conditions and in most cases successfully as far as recovery from the operation is concerned and not infrequently it brings the desired relief.

It is not reported simply because of the rarity of the pathological findings, though they are rare. Diffuse suppuration in the walls of the colon and cecum, without perforation and adhesions, was found, by careful search of the library of the Medical College of Virginia, to be mentioned in only one journal—a Russian one.

This case is reported for three reasons.

First. To remind us again that a tubercular

process within the abdomen can be successfully eradicated when the conditions are such that it can be handled radically even if apparently heroically.

Second. To point out that the very rarity of the pathological findings (wide infection without perforation or adhesions) is proof that we must catch these cases early if we wish to avoid conditions that are either very difficult or impossible to deal with.

Third. To point out the similarity of the symptoms in tubercular infection of the cecum or ascending colon to ordinary chronic appendicitis and to emphasize the importance of getting patients with these symptoms to the operating table early, because delay in operating for a tubercular appendix, or tubercular cecum, or colon, may be more serious than delay in operating for an ordinary chronic appendicitis.

In conclusion, and for the sake of emphasis, what can surgery offer the victims in whom tubercular and secondary pyogenic infection have reached the peritoneal surface of the cecum or colon? If conditions are such that resection can be safely done (a resection that takes care of all infected tissue), the final outcome will be a happy one. If, however, the coils of intestine involved are too numerous to permit of a safe resection, or if the process has involved a large part of some important organ or the gut is glued over a broad area to an infected abdominal wall, making resection either very hazardous or impossible, drainage is either the safest procedure or the only procedure at our command according to the findings. What is the outcome of drainage in such cases? Rarely a cure. Frequently a permanent sinus and finally death from advance of the disease or infection of some distant organ.

405 *Allen Avenue.*

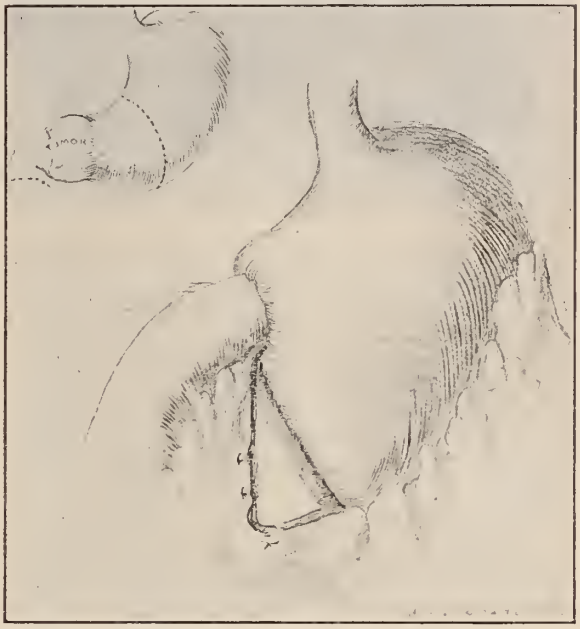
CANCER OF THE STOMACH WITH ASSOCIATED PELLAGRA.*

By ROBERT C. BRYAN, M. D., F.A.C.S., Richmond, Va.

History.—M. A. McL., referred by Dr. O. L. Denning, of Dunn, N. C., age 49, married, 10 children, farmer. Father died of dropsy age 70, mother at 81 of old age, four sisters and one brother living, one sister, 60 years of age, is stated to have pellagra.

*Read before the Richmond Academy of Medicine and Surgery, May 27, 1919.

The patient had some of the mild diseases of childhood; denies venereal infection. He is uneducated, can neither read nor write. Fifteen years ago he began to drink heavily and drank up to the time the state went dry in 1916. He gives a distinct history of ulcer of

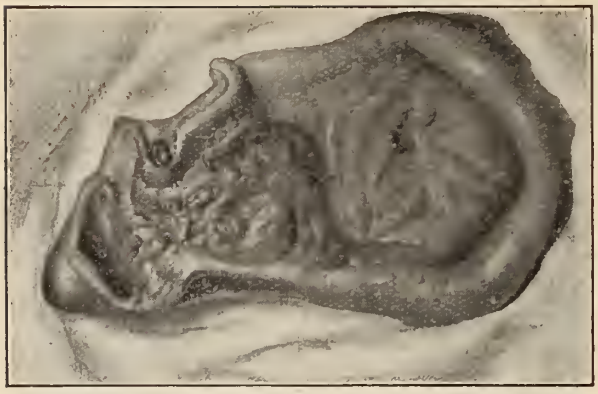


I.

The pylorus resected, gastroduodenal anastomosis carried out.

the stomach twenty years ago, the pain being relieved on eating food or drinking fluids, preferably warm. Two years ago he commenced to lose weight and at this time noticed a small knot in the stomach, which is now lower down and more to the left than formerly. For twelve months he has had occasional spells of nausea and vomiting. At this time he noticed that his tongue was thickened, red, and had deep furrows, and there appeared on the back of both hands a symmetrical eruption. He consulted a physician in Raleigh who pronounced it pellagra and gave him four injections of 606. For the last three or four months he claims to have vomited up everything he ate from five minutes to one hour after ingestion. On account of weakness and loss of weight, he has been unable to work and has now been confined to the house for the last three weeks. His original weight was 190; he now weighs 140. There is but little pain but a constant soreness in the region of the stomach.

Examination.—Tall, thin, emaciated man. Blood pressure 140-86. Heart and lungs nega-



II.
Drawing of the specimen removed illustrating the tumor and great hypertrophy of the stomach wall, proximally.

tive. Above and to the left of the umbilicus a distinct tumor the size of a hen's egg, is felt. This is movable, more upward and to the right, and can be shoved up under the costal margin. It is painless. There are no enlarged glands found in the axilla, epicondylar or inguinal regions.

Blood.—White cells, 4,400. Haemoglobin, 85 per cent.

Urine.—Color amber, clear, sediment none, specific gravity 1030, reaction acid, albumin trace, sugar negative, indican negative, acetone negative, blood none, pus few cells, casts present, hyalin, mucus abundant.

Wassermann negative.

Stomach contents.—Test meal Ewald. Vomited. Quantity received about 30 ounces; odor negative, color gray, no fluid, consistence of precipitate paste, mucus no excess, free HCl none. Blood pigment none, bile none, budding yeast abundant, sarcinae none, Oppler-Boaz bacilli present, pus none, mucus no excess, blood corpuscles none, epithelia none, food remnants starch. Remarks: Many motile bacteria present.

Dr. Murrell is invited to pass upon the pellagroid state and reports the following:

"I examined the patient on April 9th, 1919. I found him to have an eruption on the back of his hands typical of pellagra, showing the sharp gauntlet line of demarkation. The tongue was red and serrated, also typical in appearance. The gastro-intestinal symptoms were not marked, but there was the characteristic slowness of mentality found in pellagra.

"I next saw Mr. McL. on April 28th, following the operation. The general appearance of the patient was much better, his slowness of speech improved. The tongue was still red, but also slightly improved. The eruption on the back of the hands had practically disappeared

PLATE III.
Immediately after barium meal. New "Pylorus" open with Duodenum filled. Note: Small size of stomach, normally functioning "pylorus," no evidence of further malignant involvement.

PLATE IV.
"Pylorus" closed.

leaving only a slight desquamation at the site of the gauntlet line."

Dr. Murrell states that the condition on the back of the hands is pellagra, but that operation is not contraindicated.

Operation.—April 10th, general anesthesia, high median incision, xiphoid to umbilicus. The tumor that is felt about the umbilicus proves to be a tumor of the pylorus. There is no peritoneal involvement. Evidence of an old white scar is seen anteriorly about the greater curva-

ture at the pyloric junction. The liver is normal, with a sharp edge; the gall bladder is normal and no mesenteric glands are found. The transverse colon is drawn into the operative field and the stomach dragged downwards and upon the belly wall. The gastro-hepatic omentum about the pylorus and lesser curvature is tied off, the duodenum freed as far as possible, doubly clamped and proximally incised. The gastro-colic ligament is tied off and the greater curvature of the stomach is freed for three-fifths of its excursion; it is now seized with heavy gastric clamps and the thickened hypertrophied walls are incised distally, the section removed carrying the pyloric tumor is 5x7 inches. The lower two-thirds of the gastric opening is invaginated with catgut, superimposed Pagenstecher. The duodenum and gastric lumen, now of the same size, are brought together by end to end anastomosis with cat-

PLATE V.

Three hours after meal. Stomach more than half empty. The six hour plate showed stomach empty, barium meal in ileum, cecum and hepatic flexure of colon.

gut No. 2 and linen. It is noted that the tension on the sutures is considerable, and for fear that the line may give way at some point a rubber tube is placed at the lower angle of the abdominal wound and carried upwards to the pylorus. There has been so slight a loss of blood from the gastric vessels that no individual trunk is tied off.

Duration of the operation one hour and thirty minutes. Patient on leaving the table has pulse of 88.

Report on Tissue from Stomach.—"Specimen is cylindric cell cancer, and is malignant."

S. B. Moon, M. D.

The convalescence is uneventful, the stitches are removed on the eighth day, the patient's food is rapidly increased and he leaves the hospital on the 10th day of May.

July 2nd, 1919, Dr. Denning writes that the patient is apparently in excellent health, has walked four miles, increasing daily in weight and there is no evidence of the pellagra.

The accompanying X-ray pictures of the stomach, Nos. 3, 4 and 5, were taken by Dr. Fred M. Hodges, who reports the legend of the plates.

A CASE OF HODGKIN'S DISEASE IN A GIRL OF TWO YEARS.

By LANGLEY PORTER, M. D., M. R. C. S., Eng., San Francisco, California.

The morbid entity known as "Hodgkin's Disease," or Lymphadenoma, is not infrequently found in children. For the most part, however, those attacked are in their second decade. Hugh Thursfield says that of a hundred admissions for this disease to Bartholomew's Hospital for ten years, thirty were patients less than ten years of age. During the same time thirteen undoubted cases were admitted to the wards of the Great Ormond Street Hospital for Children, an admission percentage of 0.1%. All reporters emphasize the fact that the disease is very rarely encountered in children under five years of age, and it is practically unknown in infancy. Reginald Miller records the youngest authentic instance of the disease, the child being twenty-five months of age at the onset. The child we are reporting was thirty months when she came under observation; the onset of her disease apparently came at her twenty-seventh month.

The unusual features that make this case worth reporting are: 1. The early age of the onset. 2. The female sex of the child (males are affected at a ratio of 6-1). 3. The rapid onset which followed what was undoubtedly an infection involving the gastro-intestinal tract. 4. The early and extreme involvement of the mesenteric and retroperitoneal glands. 5. The late and slight involvement of the cervical glands which are usually affected early and profoundly. 6. The remarkable, extensive, and early involvement of the skin in morbid process. 7. The ex-

treme edema of the legs while the anemia was still far from profound. 8. The intermittence of the fever and the toxic symptoms which on several occasions gave an unwarranted hope for improvement. 9. The repeated but temporary improvement of the child after blood transfusions. 10. The absence of any demonstrable infective agent—cornebacterium Hodgkini, or other organisms in the glands for diagnostic purposes. 11. The extensive invasion of the lung septa by the endothelial cells characteristic of this disease. (Ordinarily such invasion is limited to the peribronchial and superficial pleural areas of the lung.) 12. The unusual size of the spleen, which in this disease most often is but moderately enlarged.

The difficulties of diagnosis in this case were largely a matter of reaching a decision between Lymphadenoma and Lymphosarcoma. The absence of early jaundice, the small liver, the huge spleen, the lack of any tendency of the glands to infiltrate, and the protracted course finally forced opinion to the diagnosis of Lymphadenoma, a view that was amply confirmed by studies of tissue sections.

This case unfortunately brought only more evidence to the sad array which proves that up to now we have discovered no therapeutic resource of avail in the amelioration of Lymphadenoma. There is nothing that we can turn to with any hope of aiding these patients; removal of focal infections, autogenous vaccines, hygienic measures, blood transfusions, X-ray exposures, radium emanations, arsenic in any form, all fail when put to the test.

L. B.—Aged two and one-half years. A female child was first seen in March 1917. The complaint was that the child was suffering from a fever, anorexia, anemia, and profound malaise of increasing intensity.

The family history was without importance, and up to March, 1917, the child had been in perfect health. At that time a severe dysentery attacked her as well as a number of other children, her playmates. This attack was attributed to the fact that she had eaten spoiled apples. A few weeks before this she had had a retropharyngeal abscess which had been opened and which healed without incident. Late in May she developed a persistent but not severe cough. There was occasional vomiting. Her temperature had risen almost every day. She suffered from marked flatulence, no abdominal pain, a capricious appetite, disturbed sleep, increased pallor and an intense itching of the skin.

At admission to the hospital her weight was twenty-three pounds. She was an emaciated, pale child, giving evidence of much discomfort. The pupils were dilated, otherwise eyes, ears and teeth showed no abnormalities. The tonsils were enlarged and red, all visible mucous membranes were pale. There were a few small, anterior and posterior cervical glands palpable and visible. The chest was thin, moved equally and fairly well. There was diminution in the resonance of the right lung anteriorly and at the right apex behind. The breath sounds were exaggerated; breathing was very high pitched on the right of the spinal column between the third and sixth dorsal. Scattered rales were heard, especially at the base of the right lung. There was dullness over the spine to the fourth dorsal and whispered pectoriloquy to the same point. There was nothing abnormal about the heart except that there was a diastolic murmur audible over the whole precordium, loudest at the third left space. There were no other murmurs.

The abdomen was very much distended, spleen was extremely large and very hard. It extended as far forward as the umbilicus and down to within an inch or less of the iliac crest. Masses of large, hard glands could be palpated everywhere throughout the abdomen and the liver was not unduly large. The shifting dullness of both flanks was undoubtedly due to presence of fluid. The extremities were thin with marked edema of both feet and legs half way to the knees. Genitalia were normal.

The skin everywhere, more especially the skin of the body, was covered with scattered, slightly raised lenticular papules, varying in size from a pin head to a small navy bean. These were pale in color, and apparently caused intense itching for the skin was extensively marred with scratch marks.

During a six weeks stay in the hospital the child gained a pound, improved in every way, the spleen decreased very materially in size and during this time her blood improved. On admission the blood showed a hemoglo-

bin of 35%, number of red blood corpuscles 2,290,000, white blood cells 20,000, neutrophiles 82%, lymphocytes 13%, large mononuclears 1%, eosinophiles 1%. At the end of six weeks there was a gain of 20% in the hemoglobin and a million and a half in the red cells. The Wassermann and urine were negative. Nose and throat cultures showed staphylococci. The temperature during the first week ran steadily to 102°, and gradually fell to normal. Treatment during this time was chiefly dietetic, reenforced by injections of cacodylate of iron. She left the hospital and continued on with the hygienic treatment.

She had a relapse and went steadily down hill and again came under our observation in October 1917. Her hemoglobin at this time was 40%, red cells 3,280,000 with normal white and differential. She was transfused and following the transfusion her temperature went to 103°, but came to normal the next day, and there was a slight temporary improvement in all symptoms, especially in well-being and appetite and the edema was completely cleared up and did not return. On October 4th she was transfused once more, and again on the first of November.

After dismissal from her second admission the blood was studied by Samuel Hurwitz and on several examinations at two or three day intervals was found to be normal except for the low hemoglobin and a moderate diminution in red cells. The deformity of the red cells and polychromasia were trivial.

BLOOD EXAMINATIONS—

September 22, 1917—
Hemoglobin (Dare) ---------- 27%
Red blood corpuscles ----------3,008,000
White blood corpuscles ---------- 9,000
Smears:—Red blood cells extremely pale; only moderate aniso-poikilocytosis. No nucleated red blood corpuscles. The polymorphs constitute 72% of the total leucocytes. Platelets, abundant.

September 27, 1917—
Transfusion at 2:00 P. M. Blood examination at 5:00 P. M.
Hemoglobin ---------- 40%
Red blood corpuscles ----------3,280,000
White blood corpuscles ---------- 12,000

October 4, 1917—
Test for the fragility of the red blood corpuscles.
Maximal resistance (average normal, 4.7) ---------- 5.0
Minimal resistance ---------- 3.5 Normal

October 9, 1917—
Hemoglobin ---------- 28%
Red blood corpuscles ----------2,576,000
White blood corpuscles ---------- 6,000
Smears:—Red blood corpuscles, pale; centres clear; some distortion in size and shape. One nucleated red corpuscle seen.

October 13, 1917—
Hemoglobin ---------- 35%
Red blood corpuscles ----------2,736,000
White blood corpuscles ---------- 4,000
Smears:—Moderate aniso-poikilocytosis. Some polychromasia. Polymorphs constitute 68% of the white cells.

On the 23rd of January, 1918, after having been in fair health for some weeks she was taken suddenly with clinical signs of pneumonia together with an enormous dilatation of the heart. Moderate enlargement of the posterior cervical and submaxillary glands had now appeared for the first time. The breathing was urgent and rapid, pulse weak and irregular. The breathing was aggravated by the enormous distention of the abdomen which on palpation showed the exaggerated state of the physical condition as previously described. She died at 4 A. M., on January the 24th, and an autopsy was performed by William Ophuls, assisted by Dr. Anna Macrae. I am much indebted to Dr. Ophuls for a very painstaking study of the tissues, his autopsy report and microscopic findings which follow.

AUTOPSY:

Fairly well built, rather poorly nourished female child of about 2 years.

Skin and visible mucous membranes pale.

Teeth—normal.

Large masses of rather hard, fairly discreet glands in the posterior part of the neck, and in the submaxillary region on both sides. On left larger than on right.

Palms of both hands—some rough places, especially at sides of palms.

Axillary glands are large and hard (size of lima bean.)

Skin of trunk is quite rough, full of small, hard nodules, from just visible to 2 or 3 m.m. in diameter. Some of these are covered with scabs, others show like little white scars.

Small, petechial patches on both legs in vicinity of knees.

Almost complete absence of subcutaneous fat. Marked atrophy of muscle.

Peritoneum and abdominal muscles very pale.

Lung shows a diffuse, grayish red consolidation posteriorly, involving practically entire lung.

Pleura on both sides show slight diffuse thickening, with a slight hemorrhage. Bron-

chial glands, right same as left. Right lung shows some diffuse consolidation except for anterior part of middle lobe. Bronchi on both sides are filled with mucopurulent material.

Heart, enlarged, in diastole. P. M. slow in pulmonary artery. Heart muscles pale and flabby. Valves, aortic, pulmonary, coronaries, normal.

Aorta—Surrounded by enlarged glands; considerably compressed but not invaded. The vena cava and iliac veins are also somewhat compressed, but otherwise free.

Blood in large vessels very thin and watery. In the peritoneal cavity there is about 50 c.c. of clear, yellow fluid.

Both pleural cavities contain a small amount of bloody fluid; about 250 c.c. of clear fluid in pericardium.

Spleen—Much enlarged, projecting 4 finger breadths below the free margin of the ribs. Some adhesions between spleen and omentum. Capsule shows a slight irreglar thickening. There are a few pitted scars on convexity. Measures 5½x3x2 inches. Very firm. Cuts with difficulty. Cut surface is of dark brown color, full of just visible grayish nodules.

Liver—Projects 3 finger breadths on the right side and disappears behind ribs in midline on left side. Measures 8x5x3 inches. Capsule shows slight diffuse thickening. Liver tissue firm, pale, grayish red, full of minute yellow spots.

Bile duct patent.

Stomach and transverse colon—Pushed down. Stomach contains some mucus and partly digested milk. Mucous membrane very pale, otherwise normal.

Abdomen very much distended, also lower part of the chest. Several glands about size of hazlenut in inguinal and femoral region where there are some scars.

Omentum very thin and shows a few small reddish glands.

In left gastro-coeliac region there are many grayish-red, hard enlarged glands; largest is the size of a hazelnut.

Diaphragm—4th rib on both sides. In anterior mediastinum is small remnant of thymus and several large hard glands.

Retroperitoneal lymph nodes are all markedly enlarged and the tissue about them is very hard and indurated. The glands themselves show a brownish cut surface. Bone marrow very soft, reddish brown color.

Left adrenal buried in dense fibrous tissue, shows marked atrophy, otherwise normal.

Left kidney somewhat swollen; pale; measures 3½x1x2 inches. Cut surface shows marked edema.

Right adrenal same as left.

Right kidney about half size of left; somewhat more congested; does not show so much edema.

Pelvic organs normal, except for large masses of glands along the iliac arteries.

All the mesenteric glands are greatly enlarged; largest, size of a walnut.

Pancreas tissue shows some large glands at tail and head; also enlarged glands at hilus of liver.

Gall bladder contains some thin bile.

Appendix normal.

Intestines normal; no sign of lymphoid hypertrophy.

Cervical glands same as others.

Esophagus and thyroid large. Trachea normal.

Diagnosis: Lymphadenoma, general. Hydropericardium. Broncho-pneumonia. Hodgkin's Disease in child involving lung.

MICROSCOPIAL EXAMINATION.

Sections of spleen show irregular masses of dense fibrous tissue about the small arteries. There is a good deal of pigment in the tissue: besides this, there are numerous small, nodular areas made up of large fusiform and star-shaped nodules. Large, light nucleated giant cells, no evidence of cells with large light nuclei. There are some large, multinucleated giant cells, no evidence of caseation. Many of the cells are heavily pigmented. No parasites found in any of these giant cells.

Sections of lymph nodes show small remnants of lymphadenoid tissue; otherwise irregular masses of dried nodules of the kind described in the spleen.

Sections of the skin show in the papillary layer groups of large cells very much like those that form the nodules in the spleen.

Another lymph gland shows a filling of the lymph spaces with these large mononuclear and giant cells.

Lung shows a diffuse cellular thickening of the septa causing a marked narrowing of the spaces. The thickened septa contain lym-

phocytes and large mononuclear cells. The air spaces are very much narrowed, lined with proliferated epithelium; some of them are filled with masses of degenerating cells.

Certain of the lymph glands show the structure of fibro-sarcoma with large fusiform cells. Some of the newly formed tissues in lymph glands show marked fatty degeneration.

Pancreas shows a marked fibrous thickening of the interlobular connective tissue.

Liver shows marked dilatation of the capillaries, the dilated capillaries are filled with blood in which there are many leucocytes and some large mononuclear cells.

In periportal connective tissue there are several nodules made up of large cells.

Kidney shows a marked congestion and edema; tubules are wide and filled with granular material. Glomeruli are rather large and cellular.

Bone marrow shows in some places irregular areas in which the marrow tissue is replaced by large mononuclear cells, which are partly polygonal and partly fusiform. There are also few giant cells.

SMEARS.

Bone marrow shows some neutrophilic myelocytes, many neutrophilic leucocytes, many large irregular cells with a somewhat spongy protoplasm that stains blue with Giemsa method. Some of the cells are pigmented; very few eosinophiles. The red blood corpuscles are of irregular sizes and shapes. Few nucleated red blood corpuscles; few short chains of streptococci. Some multi-nucleated giant cells.

The spleen shows many of the large cells with the blue protoplasm; few neutrophilic nucleated red blood corpuscles. No cocci found.

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THE THYROID—ITS RELATION TO THE FEMALE SEXUAL SPHERE.

By JOSEPH BEAR, M. D., Richmond, Va.
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It is generally accepted that the thyroids are influenced to a marked degree by menstruation, pregnancy, and lactation, but our knowledge thus far is chiefly clinical and has not yet reached that point of accuracy necessary to a comprehensive understanding of the subject.

It is my purpose in this paper to bring to the surface a few hidden points about the thyroid gland, with its relation to obstetrics, especially as it touches the question of the function of the reproductive organs, yet in this connection the phenomenon presented by this gland can not well be overlooked. The thyroid glands along with the other ductless glands may be said to be a mysterious family living within the human organism and exhibiting peculiar functions which have puzzled the minds of the medical profession.

In this gland we have a structure which has proven to be of great importance to the balance of metabolism, yet it is an organ subject to many changes as to size, contour, structure and function. These changes are evident in a variation in the amount of internal secretion, if not in its quality, resulting in hyper-, hypo-, and possibly in some cases in dysthyroidism with their associated changes of metabolism, and its mechanical interference from the growth, embarrassing respiration, circulation and nerve function.

A great many men of trustworthy note, such as Aetius, Spraine, Hunter, Pettit, Waller, and Lange hold that there exists a close relation between the thyroid gland and the organs of reproduction. A very obscure part of the reaction of the maternal tissues to the infantile stimulus is that which has to do with the activities of the ductless glands. These all seem to have a part in the chemical body-changes of child-bearing. The Romans used to appoint a committee of matrons to measure the neck of the bride on the night of the wedding with a silk thread and re-examine it again the following morning, and if there was a slight increase it showed that coitus had taken place; on the other hand if no enlargement, coitus had already taken place before marriage. Indeed, it was known to these ancients that the thyroid enlarged in gestation, and the matrons used to measure the neck of the young wife soon after marriage and again at a later date to discover if there was such an increase as might indicate the occurrence of conception.

Gaskell says: "Perhaps the most striking result of the researches is the discovery that the thyroid gland is derived from the uterus of the palaeostracan ancestor. The relationship which has been known from time imme-

morial to exist between the sex organs and the thyroid in man and other animals, and has still been a mystery without any explanation, may possibly be the last recollection of a time when the thyroid glands were the uterine glands of the palaeostracan ancestor." Though these were once upon a time intimately united and are now widely separated, a strange connection continues to exist between the thyroid gland and the generative organs even up to the highest vertebrates. The greater frequency of goiter during sexual life, both in male and female indicates a close physiologic relation. The greater frequency of goiter in the female and the greater susceptibility of this sex to experimental hyperthyroidism, the enlargements of the thyroid at puberty, at the menstrual period, at marriage, during courtship, during a period of excessive coitus, attending nymphomania, during pregnancy, during the puerperium, at the climacteric period and with uterine or ovarian congestions, indicates that there is an interrelation more active in the female than in the male. One authority, Lange, goes so far as to say that "Hyperplasia of the thyroid gland is a physiologic symptom of pregnancy." Waller is of the opinion that the gland enlarges in response to the need of more thyroid secretion to take the place of deficient secretion from the ovaries. Conn and Goodall are of the belief that the thyroid enlarges in trying to furnish enough secretion to neutralize an over-secretion from the ovaries.

In the physiology of pregnancy the thyroid becomes more vascular, often hypertrophies. The enlargement is noticed after the sixth month and may disappear only partly after delivery. DeLee says the ovary activates the thyroid, sometimes to the point of producing symptoms of Basedow's disease. The parathyroids are also affected.

In cases where there is a lack of thyroid secretion (hypo-), the patients generally take on considerable amount of flesh and ofttimes the abdomen reaches a point where it simulates pregnancy and the women believe they are actually pregnant. These are cases of spurious pregnancy. An examination will prove a normal uterus and eliminate the question of gestation. Pregnancy may cause the disappearance of myxedematous symptoms. The symptoms may reappear after delivery. (Osler).

Hyperthyroidism without marked degenerative changes may at least temporarily decrease by pregnancy inasmuch as there is a greater call for thyroid secretion and therefore the excess is lessened. Williams states that pregnancy plays little or no part in the production of exophthalmic goitre, but there is no doubt that it exerts a deleterious influence upon the condition when it already exists.

Many times the hyperthyroidism develops or is increased during pregnancy. Such cases are reported by Freund, Hutchinson, Renaut and many others. The effect of hyperthyroidism upon the structure and function of the reproductive organs is another point worthy of mention. We already know that changes in the activity of the thyroid bodies have a very marked bearing upon metabolism, and secondarily upon the general health. It is a hard matter to say whether a certain disturbed function of the reproductive organs is due to the direct effect of the thyroid disturbance or whether it results from the general ill health caused by hypo- or hyper-thyroidism. Men who have carefully studied these problems have observed a number of cases in which it seemed very clear that the ovarian disturbance was a causative factor in the thyroid disturbance as in the cases of hyperthyroidism with each menstrual period, but there are other cases in which a possible vicious circle is set up, in which one disturbed function acts upon the other. Waller reports a case, age 39, who after amenorrhea, the result of double ovariotomy, had the menses return for four months while taking thyroid extract, amenorrhea returning after the thyroid was discontinued. The improvements which are observed in patients with pelvic disorders and the correction of menstrual disturbances upon thyroid medication are among our strongest evidence of the effect of the thyroid upon the reproductive organs. Lange, Halstead, Thompson and a few others have experimented with the effect of the removal of the thyroid during pregnancy with results that it is not at all safe to remove as large an amount of the gland as in the non-pregnant woman.

Many of the cases of thyroid enlargements noticed first during pregnancy may be classed as physiologic hypertrophy and congestion and be reduced after delivery, but quite a large number show their pathologic tendency by developing hyperthyroidism and by increasing in size and further undergoing degeneration and some of these show very little improvement after delivery or perhaps grow markedly

worse. There are cases which have sprung into prominence during the puerperium. These have no doubt suffered trauma, distention and stretching of blood vessels during delivery. The lack of thyroid secretion in pregnant women bears a very important relation to their general bodily condition; there is an increased tendency to invite the toxemias of pregnancy. Thyroidism and the toxemia of pregnancy has proved a fertile field for the true scientific investigation.

Lange in 1899 reported that the thyroid gland was definitely enlarged in 108 out of 133 women examined in the last three months of pregnancy. As albuminuria was present in eighteen of the women in whom no hypertrophy was noted, he thought that there might be a possible relation between its absence and the urinary changes. Using this as his foundation, he began the use of iodothyrin in cases of albuminuric pregnant women, and in some instances observed a rapid disappearance of the albumin. Later, his views were taken up by Nicholson and others and made the basis for study especially in the connection with the toxemias of pregnancy and particularly eclampsia. Knowing then the close relation between thyroid gland and metabolism, it led Nicholson to believe that eclampsia might be due to thyroid insufficiency, and to recommend the use of its extract in the treatment of the disease. Lange found that hypertrophy of the thyroid was one of the usual occurrences of normal pregnancy, and that its absence predisposed to a toxemia. This latter statement can well be considered if we stop to think of the functions of the thyroid. While it is a little difficult to state its functions definitely yet we are taught by physiologists that one of its functions is thought to be antitoxic, antagonizing unknown toxic substances supposed to be formed in the body in the course of metabolism.

It might be well just at this point of obstetrical connection to mention the fact that in a small percentage of cases an adenoma of the thyroid gland of the fetus may act as an etiological factor in the production of a face presentation, necessitating a destructive operation.

The influence of the thyroids upon lactation is another phase of the subject that has aroused considerable interest. Hertoghe believes that thyroid given to lactating women increases the flow of milk. Morse and Cathala report a case where a goitrous child with marasmus improved rapidly when thyroid was administered to the nurse. Halstead, of Johns Hopkins, is said to be the first to have produced and to have recognized the experimental production of congenital hyperplasia in dogs. W. M. Thompson, of Chicago, has also done a good deal of experimental work on pregnant dogs with the object of ascertaining the effect of disturbances of the thyroid during the height of sexual activity. He has shown that the removal of one thyroid gland has comparatively little influence on pregnant dogs or their pups after birth, but that the removal of one-half, with injuries enough to destroy the function of the remaining thyroid and para-thyroid tissues, is followed by tetanic seizures and death of mother and puppies; that the total removal of the thyroids, with some para-thyroid tissue, is followed by trembling and rigidity, and that after the birth of the puppies the milk was scanty, and later the mother and puppies died.

The following conclusions may be summarized; the fact remains that the thyroid becomes enlarged in almost every pregnant woman that is doing nicely; that there is clinical and experimental evidence connected between the thyroid and the sexual system of man and other mammals through its secretions, because a lack of thyroid secretion influences sexual activity adversely; that sexual activity, whether it be normal or abnormal, causes a hyperactivity of the thyroid bodies, and that this condition marks an index to the toxemia of pregnancy to counteract which these glands put forth their antitoxic protective power; that there is sufficient clinical proof in support of the theory that what we call a normal physiologic hyperactivity of the thyroid glands is a valuable defensive agent against the toxemia of pregnancy, and further, after taking into consideration all of the evidence we have at present, it seems that it is fair to conclude that there exists such a relation between the physiology and pathology of the reproductive organs and the growth, function, and degeneration of the thyroid gland as to make one carefully consider the pelvic organs in all cases of impaired thyroid functions.

While there are periods in the life of a woman which are associated with physiologic increased growth of this gland, we must bear in mind that not all disorders are of this class,

so that it is safe to say that it may be strongly urged that the growing girl receive greater attention at puberty, for the physiologic disturbance of a thyroid at this time may extend into a pathological process of later years. Cases showing marked enlargement of the gland during pregnancy should be carefully managed.

Any signs of hypo-thyroidism, toxemia or eclampsia should be promptly attended to.

As pointed out above, the inter-relationship which exists between the thyroid and the sexual apparatus are, at the present time, not fully understood, and, indeed, they are very complicated, but in time the whole riddle will be disclosed with the wiping out of the dark spots of obstetrics, and it will become clear in what ways pregnancy acts upon them and how they react upon pregnancy.

216 *East Franklin Street.*

QUARANTINE AND DISINFECTION IN SCARLET FEVER.*

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The first assignment of patients to the U. S. Army General Hospital No. 9 consisted of 139 cases of scarlet fever transferred in February, 1918, to relieve the pressure in the contagious wards of a near-by camp. The assignment was unexpected and the capacity of the ward set aside for contagious diseases was entirely inadequate, so that two additional wards of a capacity of 90 beds each were hastily converted into contagious wards.

The hospital functionates in a hotel of the orthodox double L design, which is admirably suited for quarantining two entire sections. It was possible to secure absolute lack of contact between patients and the healthy, except in the inevitable instance when orders were not obeyed. The nurses on duty in the wards were isolated as to their sleeping quarters and mess. The ward attendants slept in a portion of the contagious wards but were allowed to mess together in the mess hall on the lower floor, after change of gown, cap and presumably, disinfection of the hands.

The patients were admitted to the hospital in every stage of scarlet fever from the 2d to the 35th day, 20 per cent. being within the first five days of the disease. Opportunities for contagion therefore were numerous, and five additional cases which developed among contacts were treated in the wards. Two of the five occurred in assistant ward attendants after they had had one or two weeks service in the infected wards; another occurred in the brother of one of the ward attendants. This brother had been visited in his quarters by the ward attendant on the night before the latter was taken ill, and eight days later this brother developed a sore throat with slight temperature and ephemeral rash. As an isolated case it would undoubtedly not have been diagnosed. He was treated in the scarlet fever wards, however, without subsequent infection, and the conclusion was inevitable that the attack instanced a very mild type of scarlet fever of the kind most apt to spread contagion. The fourth patient was one of the kitchen detail who took meals to the ward. Contrary to orders he entered the diet kitchen instead of passing in the food from the outside. He was taken sick the day after reaching his home on a furlough, and was not included in the total number of patients treated at this hospital. The fifth patient was taken ill six days after preparing a large number of infected blankets for sterilization. He had nursed through the epidemic and no particular caution was deemed necessary in assigning him to this work. The agency of the infected blanket in his infection is not positive but strongly suggested. The sixth patient, whom we will designate as patient B, was admitted to the surgical wards in another part of the building, suffering from tubercular adenitis with an open sinus which required dressing, two days after quarantine had been lifted on the last of the original cases of scarlet fever. Seven days after admission he developed a sore throat followed by the rash on the next day. Patient B gave no history of direct exposure at the camp from which he was sent to this hospital and knew of only one case of the disease existing at that camp at the time he left it. The only possible exposure at this hospital was as follows: One of the original scarlet fever patients, whom we will call patient A, had developed a sub-maxillary adenitis on the forty-second day of his disease. This was at first supposed to be mumps but in the course of twelve days suppuration occurred and on the fifty-fourth day of his disease he was transferred to the surgical ward for operation. The surgeons were informed of all the circumstances and agreed

*Read before the American Pediatric Society, Atlantic City, N. J., June 16th, 1919.
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to accept the case under proper precautions. The abscess in the sub-maxillary gland in patient A was opened five days before the admission of patient B. Both patient A and patient B were dressed in the same dressing room, the surgeon stating that patient A was always dressed after every other case. Patient B states, however, that on at least one occasion, shortly after his admission, he was dressed immediately after patient A. It was impossible to verify this by other testimony and we must remain in doubt as to whether the infection of patient B resulted from any fault in technique or whether he had been infected prior to admission to this hospital. No other cases developed after patient B.

A uniform minimum length of quarantine of forty-two days from the day of entry into the camp hospital was enforced. On the fortieth day each patient was carefully examined by the assistant chief of the Medical Service, Major William C. Moore. All those who showed any evidence of abnormality in the throat, nose or ears were inspected by the throat and nose specialist, Capt. Clarence Keeler, who decided whether or not the patients gave any evidence of being potential carriers of contagion. Those with disease of ears or upper air passages were given daily treatment. Fifty-nine per cent. of the patients were ready for discharge at the termination of the quarantine period, and 41 per cent. required more or less treatment. The average period of quarantine therefore was 47 days. This extension of time was due partly to the occurrence of several cases of mumps. Every patient exposed to this was kept in quarantine for twenty-one days' period of incubation for mumps, unless he had been immunized by a previous attack. Only three cases of mumps developed but the number of quarantine days were materially increased on account of this outbreak.

The construction of the hospital allowed space in the largest rooms for not more than six beds, while the average number of beds per room was only three. This type of construction increases the difficulties of nursing but unquestionably tends to prevent the spread of contagion. Many of the rooms had private baths adjoining them so that it was possible to effect complete isolation of contacts.

Upon the conclusion of quarantine, each patient was given an orthodox bath, shampoo, change of clothing, and was then transferred to a clean ward in another part of the building. All soiled linen was soaked in two per cent. liquor cresolis solution for two hours or longer before being sent to the laundry. Shoes, hats, and leather belts were exposed to formaldehyde gas in sealed closets for twenty-four hours. Blankets and patients' woolen clothing were sterilized in the auto-clave. After the evacuation of the ward, the hall carpet and paper wadding were carefully rolled up and dropped from a window to the ground, then spread out in an unfrequented space in a corner of the hospital yard and left to air for forty-eight hours. After this the carpet was brushed and stored, ready for relaying. (The use of carpets, of course, was absolutely unorthodox, but no other floor covering was available and some sound deadener in the halls was essential.) The floors of the wards and halls were mopped with a copious supply of the two per cent. solution of cresolis and all flat surfaces, bedsteads, furniture and wood work were wiped off with the same solution. The mattresses were left on the beds and every window in the ward was left open for three days to the April winds and sunshine. The attempt was made to expose the pillows to concentrated formaldehyde gas, but, in view of the difficulty in securing surface contact and penetration, the attempt was abandoned and the pillows thereafter were thoroughly sunned and aired. At the conclusion of the airing the hall carpets were relaid and the wards equipped for use. Within two weeks they were again occupied and have been in constant use ever since. Until February, 1919, there had not been another case of scarlet fever observed in this hospital. Many of the patients discharged from the scarlet fever wards remained in the hospital for several weeks and had free access during pass hours to all parts of Lakewood and at times to neighboring towns on the coast. So far as can be learned none of these patients carried the contagion to anyone in Lakewood or elsewhere.

Certain statistical data may be added. The longest quarantine was 63 days and 72 days in patients suffering respectively from hypertrophied tonsils, chronic follicular tonsillitis, severe deflection of the septum, and chronic naso-pharyngitis; otitis media, chronic tonsillitis and hypertrophied tonsils.

Physical Defects.—Of the 144 patients, 56

exhibited no defects of any kind; 10 exhibited defects which should have been a cause for rejection for military duty, viz.: deafness (1), gastric ulcer (1), valvular heart disease (2), hysteria (1), chorea (1), Graves' disease (1), tuberculosis (3). Seventy-eight patients exhibited minor defects, 7 of these consisting in simple enlargement of the thyroid without toxic symptoms; the other 71 had defects which were remediable, chiefly hypertrophied tonsils and dental caries.

Complications.—Eleven patients showed what might be called serious complications: pleurisy, otitis media, mastoid and cerebellar abscess, nephritis, myocarditis. The patient with mastoid infection and subsequent cerebellar abscess was the only one whose condition was at all critical. He also suffered from a toxic nephritis. His ultimate recovery was complete except for slight residual vertigo. Thirty-seven patients showed mild complications: transient albuminuria, bronchitis, functional cardiac disorder, pharyngitis, peri-tonsillar abscess, etc. Thirteen patients suffered from the symptom complex which has been described at this hospital as functional cardiac disorder, post infectious type. All of these patients recovered before their final discharge from the hospital.

Length of Quarantine.—Until the infecting organism of scarlet fever is demonstrated, the proper length of quarantine always will be open to argument. In accounting for the spread of this disease, the chronic carrier would seem to be the most likely agent, as is known to be the case in diphtheria and meningitis. *A priori* the unhealthy nasopharynx and throat might be under the suspicion of harboring infection. Examination by a throat specialist therefore may enable us to prevent the discharge of a potential carrier and, possibly, to hasten the discharge of a healthy person. In mild cases, with healthy throats, 35 days or less might cover the danger period. The period of quarantine prescribed in the army is forty-two days, and under circumstances such as those just described, where discharged patients were to mingle at once with uninfected patients and with the towns people it was much better to err on the side of safety than to run any risk of a premature discharge. The isolation for such a long period was rendered much less irksome because of the opportunity for exercise through the well ventilated corridor of a ward 300 feet long, and for recreation of various kinds.

Disinfection.—The factor of the human carrier in the etiology of contagious diseases is being accepted to such an extent as to make it extremely questionable whether any measure other than a thorough cleansing is necessary after any infection. Formaldehyde gas in proper concentration and with sufficient moisture probably will destroy the organism of scarlet fever. That this optimum result is often obtained is extremely doubtful. Disinfection of linen and woolens and disinfection and removal of the dust which accumulates on floors and flat surfaces, followed by thorough airing, appear to be the actual requirements for safety.

Conclusions.

1. The human carrier is by far the most important factor in the transmission of the contagion of scarlet fever.

2. The actual limit of quarantine in uncomplicated cases probably may be placed safely at not more than thirty-five days; before quarantine is lifted an examination of the nose, ears, naso-pharynx and throat by an expert should be the determining factor.

3. Thorough disinfection of linens and woolens with disinfection and removal of dust wherever it may have lodged, followed by thorough airing, constitute sufficient protection after the contagion of scarlet fever and are surely more effective than disinfection by formaldehyde gas as it is usually practiced.

Proceedings of Societies, Etc.

THE AUGUSTA COUNTY (VA.) MEDICAL ASSOCIATION

Held its regular bi-monthly meeting in Staunton, August 6. Papers were read by Drs. Elbyrne G. Gill and J. F. Armentrout, of Roanoke, Va., and a very interesting session was held. Following the meeting, the members were the guests at dinner at the Virginia Hotel of Dr. Kenneth Bradford, the former president.

The election of officers was held with the following results: President, Dr. J. B. Rawlings, Staunton; vice-presidents, Drs. Guy Fisher, New Hope; J. B. Stone, Churchville; H. G. Middlekauff, Staunton; secretary, Dr.

C. C. Jones, Staunton; treasurer, Dr. M. P. Jones, Churchville.

Drs. A. L. Tynes, Staunton, and R. S. Griffith, Basic City, were elected delegates to the House of Delegates of the Medical Society of Virginia.

The County Society.

This Department is conducted by the Committee on Component County Societies at considerable trouble and expense, and a copy of the Journal sent to members of the local societies and to the doctors of the unorganized counties. All of this is done for the purpose of interesting you in the work, which we take to be a great one, and of getting your aid in promptly completing the organization, and developing the usefulness of the societies already chartered. Your active co-operation is earnestly desired.

The Committee is composed of Drs. Southgate Leigh, chairman, R. S. Griffith, T. V. Williamson, C. P. Jones, E. H. Terrell, Joel Crawford, G. A. Stover, J. R. Garrett, D. M. Kipps, Stephen Harnsberger and W. H. Ribble, Jr.

The Committee will be glad to answer all inquiries addressed to 109 College Place, Norfolk, Va.

House of Delegates.

How Composed.

Each component County Society shall be entitled to elect to the House of Delegates, each year, one delegate and one alternate for each thirty-five members or major proportion thereof, provided that *each society shall be entitled to at least one delegate and one alternate.*

Some of Its Duties.

It shall have charge of all business matters pertaining to the Society which are not expressly assigned in the constitution and by-laws to the officers and committees.

It shall hold its meeting on the second day of the session of the Society, at 9 a. m.

It shall give diligent attention to fostering ethical and scientific spirit and the progressive organized work of the Society.

It shall make a careful inquiry into the condition of the profession in each county of the state.

It shall pass upon all motions, resolutions, inquiries and reports pertaining to appropriations and expenditures of moneys or those in any way affecting the general policy of the State Society or any proposed amendment to the constitution and by-laws and submit to the Society reports thereon.

It shall, on the third day of the annual session, elect officers, standing committees, delegates to the American Medical Association, and members of the Medical Board.

Administrative Officers.

The administrative officers of the Society are the president, first, second and third vice-presidents, secretary-treasurer, one councilor each for the ten congressional districts of the state, and five councilors for the state-at-large.

These officers have the interest of the Society at heart and beg the presidents and secretaries of component (local) societies to hold meetings for the diffusion of medical knowledge, for the increase of scientific study, and for the strengthening of the organization of medical men in the State of Virginia.

If the medical men of the State move with organized effort, much can be accomplished for the public good and professional welfare.

If component societies have not yet elected delegates and alternates to represent them at the October meeting of the State Society, we would suggest that it would be well to have these elections promptly.

Analyses, Selections, Etc.

WHAT WE KNOW ABOUT CANCER.

In February, 1917, by vote of the National Council of the American Society for the Control of Cancer, a committee composed of Drs. Robert B. Greenough, Boston, James Ewing, New York, and Jonathan M. Wainwright, Scranton, Pa., was appointed to prepare the manuscript of a Handbook on Cancer, for circulation among the members of the medical profession of the United States. This was done as a part of the campaign the society inaugurated for the collection and dissemination of facts in regard to cancer, to the end that its mortality might be reduced by a wider knowledge of the disease. The first manuscript was submitted to the Council of the Society at a meeting in April, 1917. After making changes suggested by members, a revised manuscript was submitted to the Council at a meeting

October 26, 1918, and, with certain minor changes, this was accepted and ordered published with the endorsement of the Council and in the name of the Society.

The handbook is designed to provide in a brief and readily accessible form the important facts about cancer in general, and its manifestations in the different situations where it most commonly occurs. It presents only in general terms the expectation of success attending the radical operative treatment of cancer in each of its different situations.

For the benefit of those of our readers who have not seen the pamphlet, we will publish it serially, beginning with this issue.

I.
General Considerations.

PUBLICITY AND EDUCATION.

As a result of the campaign which has been conducted by the American Society for the Control of Cancer for the education and enlightenment of the lay public on the subject of cancer, a greater and more accurate knowledge of this disease is already evident, and many fallacious ideas have been corrected. This has been the primary and most necessary step in the campaign to reduce the very great, and often unnecessary, mortality of this disease, for until the patient of his own accord seeks medical advice no steps can, of course, be taken toward making a diagnosis or applying the proper treatment. Much yet remains to be done in the way of education of the public, not only in the more remote rural districts but in the towns and cities as well, and it must be done wisely and temperately, and without producing so great a fear of the disease as to alarm people unnecessarily. It is the knowledge that the disease can be cured by radical treatment in its earliest stages that must be disseminated. Many laymen, and some physicians, find it hard to believe this fact. Cancer is not a disease that runs its course, like pneumonia or typhoid; it is an actual entity—as much a part of the individual as his finger or his nose, and it is either still a part of him and growing to a fatal termination or it must be removed entirely in order that he may be cured. The layman knows of the many cases that are not cured, whether an attempt at cure by operation has been made or not, but he rarely knows of the cured cases, for the reason that the individual who has been relieved of the disease by operation goes about his or her business as well as ever, and disguises, so far as possible, the loss of the organ or the scar of the operation by which life has been saved. It is difficult to controvert this personal experience of the individual by assertions of the possibilities or probabilities of cure by operation, but it must be done if the public is to understand the actual facts of the cancer problem. Every physician should feel it his duty to make these facts clear to the laymen within his reach. The physician of the present day must do far more than care for the cases of disease that call for his help. He is the health officer of his own clientele, and they look to him for knowledge to protect them from disease. The instruction which has been given to the public is already bearing fruit, and from many communities comes the report that patients now present themselves to their physicians much earlier than in the past with symptoms that they consider suggestive of cancer. Under these circumstances it behooves us to consider, as members of the medical profession, the obligations which rest upon us as the nearest and the first sought source of scientific knowledge, to give to our patients that wise counsel which they have a right to expect.

RESPONSIBILITY OF PHYSICIANS.

It is a well known fact that a considerable proportion of malignant tumors are not recognized by the doctor when the patient presents the indefinite early symptoms of the disease. Optimism too often replaces a careful physical examination. The great majority of cancers of the rectum are today treated as hemorrhoids for from one to six months. Uterine discharges are often not properly investigated, and curettings are not examined. Cancer of the tongue and mouth is permitted to advance because there is a positive Wassermann. Metastases are produced by repeated rough examinations. Malignant moles and epitheliomas of the skin are imperfectly removed. Clearly inoperable cases are operated on, thus bringing operation into disrepute.

These conditions call for a far keener appreciation of responsibility for the mortality from cancer than now generally exists in the medical profession. To collect and to make accessible to the physicians of this country the most fundamental and essential facts about cancer of the different organs and regions of the body is the object of this pamphlet.

STATISTICS.

Complete returns of cancer mortality are available only for the registration area of the United States, which, however, includes approximately 70 per cent. of the total population. On the basis of this information it is conservatively estimated that the mortality from cancer in the entire continental United States at the present time (1918) is approximately 90,000 per annum. According to sex, the mortality by principal organs or parts affected, based on the figures for 1914, is as follows:

ESTIMATED ANNUAL MORTALITY FROM CANCER CONTINENTAL UNITED STATES,

1914-1915

Organs or Parts	Males	Females	Total
Buccal cavity	2,725	570	3,295
Stomach and liver	15,787	15,056	30,843
Peritoneum, intestines, rectum	4,544	6,027	10,571
Female generative organs	-----	11,965	11,965
Female breast	-----	7,771	7,771
Skin	1,982	1,098	3,080
Others	7,838	4,637	12,475
All forms	32,876	47,124	80,000

The recorded mortality from cancer in this, as in other countries of the world, is gradually on the increase. The annual increase in the cancer death rate is approximately 2½ per cent. The recorded cancer death rate has practically doubled during the last forty years.

EXPERIMENTAL WORK

During the past ten years commissions and laboratories for cancer investigation have been established in many places in the United States, as well as abroad. In all of these centers research work has been carried on on the tumors of animals as well as on human cancer. All of the resources of chemistry, physics, physiology and biology, and the study of immunity reactions have been brought to bear upon the problem, and the work is still being carried on; but, as yet, the ultimate cause of cancer is not known. Many important facts, however, have been discovered, and by every fact contributed the growing structure of our knowledge of the disease is built up until, for instance, we now know many things that cancer is *not*, and useless expenditure in investigation along those lines has ceased. We know that cancer is not due, in the sense that infectious disease are due, to a parasite. We know that cancer is not communicated from one person to another, and that there is no danger of the nurse contracting the disease in caring for the cancer patient. We know that the influence of heredity in the incidence of the common forms of cancer in human beings is so remote that the factor of inheritance may, as a rule, be disregarded. We know that one form of cancer after another has been brought in relation to some form of chronic irritation, as a direct or indirect predisposing influence, and that cancer of the cervix, the lip, the tongue, the rectum, the stomach, and many of the forms of malignant disease of the external skin —Marjolin's ulcer, the Kangri cancer of Kashmir, the paraffin worker's cancer, and the roentgen-ray worker's cancer—are all closely associated in their inception with one form or another of chronic and repeated irritation. It has also been shown in the laboratory that rough compression and manipulation of a tumor are fully capable of setting its cells free to form metastases, and from this we learn to use the utmost gentleness in the palpation of a tumor for diagnosis, as well as to avoid compression, dragging, and all unnecessary trauma to cancer tissue during the operation for its removal. All of these facts we owe to the laboratory investigation of cancer, and we may reasonably hope that the next decade will contribute as much, or more information concerning this disease.

IMPROVED OPERATIVE TECHNIC

In the great surgical clinics the technical details of the operative treatment of cancer of the different organs are constantly under investigation with a view to improvement and to greater effectiveness. For most of the common sites of cancer the operative technic of the so-called radical operation is practically standardized. The site of origin and the mode of dissemination of cancer in the different organs is well known, and each standard operation aims to remove the tissues of origin and the tissues suspected of secondary involvement, by a wide margin and *without cutting into cancer tissue or scattering it broadcast in the wound.* There are problems still to be solved along these lines, especially in the simplification of the operation and in the reduction of the mortality and the possible complications, as in cancer of the tongue or cancer of the uterus. It is possible, however, to give a fair and guarded estimate of the comparative mortality, and of the prospect of success of the operative treatment of cancer in different organs. A successful radical operation results in the cure of cancer. While it is everywhere admitted that no fixed limit of

time exists at the expiration of which an individual patient may be said with certainty to be "cured" of the disease, yet it is a fact that the ordinary three-year period is sufficient for all practical purposes. While undoubtedly late recurrence may take place after the three-year period has elapsed in a small number of cases, especially in certain forms of cancer such as cancer of the breast and cancer of the stomach, in the vast majority of cases recurrence comes within this period, if at all; and the radical operation may be considered practically, if not absolutely, certain of success if no signs of disease have developed within three years.

RADIUM, ROENTGEN RAY AND CAUTERY

Radium and Roentgen Ray.—The effects of roentgen rays and of the radiation of radium, and of other radioactive substances on cancer tissue, have aroused great interest and much experimental and clinical study of their action has been made. In general, it may be said that effects ranging all the way from retardation of growth to actual destruction of tumor tissue can be secured by radiation. Certain forms of cancer tissue appear to show a greater susceptibility to the action of these radiations than the normal tissues of the body; especially is this true in regard to lymphoma, lymphosarcoma, giant-cell sarcoma of bone, and mixed tumors of the salivary glands. Cancer of the mucous membranes which is accessible to the direct application of radium radiation can often be destroyed by treatment. When metastatic deposits of cancer are present in the lymph nodes, however, by extension from the point of origin in the mucous membranes, radium cannot be counted on to destroy the disease, and a permanent cure is not to be expected. For these reasons radium is a safe method of treatment only for superficial cancer of the skin of the nonmetastasizing types, or for other forms of surface cancer which have been in existence so short a time that metastasis to the regional lymph nodes cannot possibly have already taken place. This period is at best an indefinite one; but we do know that in certain locations, such as the tongue or lip, early metastasis is the rule, while in other situations this period may be more prolonged. It is for these reasons that the proper treatment of established cancer of the lip, tongue, breast and other organs which are prone to cancer of the early metastasizing type is considered by surgeons to be by radical operation, with removal of the regional lymph nodes. The use of radium for treatment of local lesions of this nature, unless accompanied by surgical removal of the suspected lymph nodes, is inadequate, and is not justified by our present knowledge of the effects of radium on cancer tissue. For superficial nonmetastasizing cancer, however, and for many superficial skin lesions, such as keratosis senilis, or papillomata, which have a precancerous tendency, treatment by radium is to be preferred to operation. In certain cases of extensive nonmetastasizing cancer, also, the combination of operative treatment and subsequent radiation is a recognized and valuable procedure, and in the treatment of inoperable and incurable cancer roentgen rays and radium offer a field of the greatest usefulness. Under heavy radiation a bleeding, ulcerated, offensive surface can often be cleaned up rapidly, even though the disease continues to infiltrate the tissues and the metastatic deposits increase until the patient dies. There is no question of the symptomatic relief and comfort afforded to the patient by palliative treatment with roentgen rays and radium.

Cautery.—A method of treatment of cancer which has a certain number of advocates is that of cauterization. For small, superficial lesions the actual cautery has long been employed, with some success. When the disease is entirely destroyed the method is satisfactory, although the healing of the wound is prolonged and painful, and the scars produced are far more unsightly than after operation. A special adaptation of the cautery to uterine carcinoma has been advocated in the use of low heat and prolonged treatment. This method is still under trial, and it would be premature at this time to pass on its merits. Other fields, however, are open to the use of the cautery in many forms of cancer: First, its use is strongly urged by a certain number of surgeons as the most effective method to seal the lymphatics immediately after excision of a portion of a tumor for frozen section diagnosis, and second, the cautery may be employed for the palliative treatment of inoperable, ulcerated and bleeding tumors, often in association with radium or the roentgen rays. For the primary radical treatment of operable cases of carcinoma of the deeper tissues, however, the use of the cautery must be condemned.

SERUM TREATMENT

There have been innumerable attempts to produce a cure for cancer by drugs or tissue products, instead of by the mechanical destruction or removal of the tissue which is obtained by radioactive agents, cauterization or surgical operation. Not one of these methods has withstood the critical test of time—the serum of supposedly resistant or cured human cases: the serum of animals subjected to inoculations of human cancer tissue; the injection of human cancer emulsions as a vaccine, or of bacterial toxins. Each method has been given fair scientific trial and has been found to be of insufficient value to warrant its continued use.

"CANCER CURES"

Drugs of all kinds have been employed, both for local administrotion by injection or as caustic pastes, and for more general constitutional effect. In some the active agent is known as creosote; in others the remedy is secret, and the compound is sold at a high price to physicians or to laymen who are sufficiently credulous to purchase. No series of authentic cures of cancer has yet been demonstrated by any of these methods. Finally, the fake "cancer cures," herb and Indian doctors, and Christian scientists, increase enormously the mortality from cancer. It is charitable to suppose that they do this rather from ignorance than by intention, but the result is the same in any case. The patient is encouraged to expect relief until his money is exhausted and his disease is too far advanced for cure by operation, when he finally drifts to the charity hospitals, where his sufferings can be controlled only by opiates, and he dies a lingering death, offensive as well to himself as to all with whom he comes in contact.

II.

Early Diagnosis and Treatment.

The early diagnosis of cancer is recognized to be the one factor of the greatest importance in the successful control of the disease, and it is well for us to consider all of the conditions on which this early diagnosis depends. Unfortunately, cancer in the different organs and regions of the body presents itself by a variety of different symptoms such that they must be considered not as manifestations of one disease, but rather as of many different diseases. In most situations, however, the dictum holds true that *the more certain the diagnosis the less the probability of cure.* In one organ, as the breast for instance, the earliest symptom of cancer may be either a tumor, discovered by accident, or an indrawing of the nipple or puckering of the skin. In another, as the tongue, the first symptom noted by the patient is an ulceration which shows no tendency to heal. In other portions of the body, like the uterus or the rectum, the first symptom to attract the notice of the patient, or the physician, may be a discharge of blood from an internal ulcerated surface, which is only to be detected by a digital or visual examination. In all of these situations conditions other than cancer may give rise to similar symptoms—in other words, the symptoms of early cancer are not distinctive and serve only to arouse suspicion of the presence of that disease. When the abdominal viscera are affected by cancer the symptoms are still less definite, and the early diagnosis is made even more difficult. In these regions, however, the development of examination by the roentgen ray has given us a means of early diagnosis which is not to be neglected. When symptoms are present, suggestive of cancer, but insufficient to make a positive diagnosis, two courses are open to the physician: The first is to wait until more distinctive symptoms develop; the second is to proceed at once to an exploratory operation. The first method, that of waiting until a positive diagnosis can be made, is the one that has been most commonly practiced. It is the easy way, and it is one of the factors most directly responsible for the present enormous mortality of the disease. It is in the hope that this waiting method may be abandoned that this pamphlet is prepared for publication.

EXPLORATORY OPERATIONS

Diagnosis by exploratory operation is the method which promises the greatest and most immediate reduction of the mortality of cancer. The exploratory operation must be adapted to the region or organ affected by the disease, and it must be emphasized that a procedure which is suitable in one situation may be extremely dangerous in another. The desirability of an early exploratory operation, therefore, varies with the situation of the disease.

BIOPSY

The operative removal of tissue for pathologic examination (biopsy) is a measure open to discussion. Where a positive diagnosis can be made without this aid, the best and safest

treatment is, undoubtedly, to proceed at once to immediate radical operation. To cut into cancer tissue "in situ," undoubtedly adds to the danger of dissemination of the disease. In certain regions, however, the radical operation for cancer involves such great operative risk and such serious mutilation, that it cannot with justice to either patient or physician be advised on anything but a positive diagnosis. In this class fall especially cancer of the larynx, cancer of the tongue and jaw, and spindle cell sarcoma of the long bones. Under these conditions, especially if the tumor is an ulcerated one, the removal of a superficial fragment for immediate frozen section diagnosis is held to be permissible, although no delay should be tolerated, and the radical operation should be completed under the same anesthesia. Many surgeons believe that in such an exploratory operation the wound in the suspected cancer tissue should be immediately and thoroughly canterized to prevent the operative implantation of living cancer cells during the subsequent stages of the operation.

The safest procedure to be followed in doubtful or suspected cases of cancer in each organ or situation is discussed in the subsequent sections of this pamphlet. It is sufficient here to urge on the practicing physician the dangers of delay, and the advantages to the patient of an early positive diagnosis.

EARLY OPERATION OFFERS THE BEST PROSPECT OF CURE

It is the well established opinion of the best medical authorities that at the present day early and thorough operative removal of the primary tumor offers the most certain cure for cancer. Other methods of treatment are of value in incurable cases, but to obtain a sure and complete cure of the disease the original focus must be eradicated, together with all of the tissues which are known in each region to be the ones earliest invaded with the beginning of extension of the disease. When the disease can be recognized in its early stages, and this thorough and complete operation promptly performed, the patient should, theoretically, be cured of cancer with almost as great certainty as a cure can be obtained in cases of appendicitis. Twenty years ago the early signs of appendicitis were little known. Cases came late into the hands of the surgeon, and the mortality was enormous in comparison to that of the present day when the public and the physician both recognize the importance of early operation. It is surely not too much to hope that a similar reduction in the mortality of many of the more favorable forms of cancer will take place when the imperative need of early operation for this disease is better understood.

CONDITIONS ESSENTIAL TO EARLY OPERATION.

1. *The Patient.*—The first essential in procuring prompt treatment of cancer cases is that the lay public should be educated to understand, as they now understand in the case of appendicitis, the need of early operation, and the importance of the early recognition of the disease. We live in a period of publicity, and medical matters are coming to be recognized as one of the subjects in which greater public knowledge works for the common good. The American Society for the Control of Cancer has done a great deal by circulars, public lectures, and by legislative and state committees, to promote this work. City and state boards of health and individual health officers in special districts have contributed the help of their official position to this work, and the daily press and the magazines have given their assistance in this worthy cause. A better knowledge of the disease is already evident in those districts where this publicity work has been carried on, but much remains to be done, and there are many people who can be reached only with difficulty who must rely for instruction on the only health officer with whom they come in contact —the family physician. It is on him that the duty finally rests to inform, to correct misapprehensions and obsolete ideas, and to teach his people the early and significant symptoms of the disease. Nothing can be accomplished in the individual case until the patient is sufficiently alarmed, by symptoms he has been taught to regard as suspicious, to consult his physician for examination and advice.

2. *The Physician.*—It might well be supposed that as soon as the patient consulted his physician his disease would be recognized and early and adequate treatment at once applied. Unfortunately this is not always the case. Most of the physicians of this country have been taught in their medical schools and their text-books of surgery the distinctive and typical symptoms of cancer, and by the extent to which they are typical they are the symptoms of cancer which is no longer early but has already progressed to the inoperable stage. It is the early and uncertain cases that must be

recognized if any material improvement in the mortality is to be brought about.

3. *Examination.*—It would seem unnecessary to lay stress on so elementary a method as actual physical examination as an aid to diagnosis, were it not for the fact that the neglect of a physical examination by the physician too often robs the patient of his or her chance to obtain a cure. Sometimes the examination is abandoned or delayed in the mistaken object of saving the patient's sensibilities. Sometimes it is neglected because the physician is not alert to the possible grave significance of the patient's symptoms. In any case, it may fairly be said at the present day that the physician *who fails, by a physical examination, to make sure that the symptoms complained of are not due to cancer fails to give his patient the chance of cure to which he is entitled.* Especially is this true in cases of cancer of the breast, of the uterus, and of the rectum, where the early diagnosis depends entirely on physical examination.

4. *Diagnosis.*—If cancer is to be detected in its early stages its earliest symptoms must be well known to the physician, and a large number of doubtful cases must be taken care of where positive symptoms are lacking but a strong suspicion of cancer exists. How are such cases to be handled? On the one hand the physician does not wish to let himself get the reputation of being an alarmist, and drive his patients to unnecessary operations on a mistaken diagnosis. On the other hand, he cannot, for the sake of the patient, wait for the more certain symptoms to develop, and for the disease in the meantime to become incurable. It is the physician's reputation against his patient's life. There can be only one answer —the life of the patient is the only consideration. Under these circumstances the physician deserves the aid and the sympathy of the community. The public must be taught that the physician who is alert to recognize and procure operative treatment in the early stages of the disease will undoubtedly at times cause patients the expense of an unnecessary surgical consultation—an expense that most persons will gladly bear if they can be assured that they are not afflicted with this terrible disease. It is the early cases that offer the difficult problems, and deserve the service of the very best experience. And, finally, there are very few regions of the body in which, in a doubtful case, with the laboratory facilities of a modern hospital, an exploratory operation cannot be performed to procure an immediate positive diagnosis by frozen section examination of the suspected tissues. The physician who is alive to his responsibilities in the early diagnosis of cancer and who brings his patient to operation during the early and uncertain stages of the disease, renders the greatest service to his community and deserves that this fact be recognized.

5. *Consent of Patient to Operation.*—Granting that the patient seeks early advice and that the physician recognizes the early symptoms and advises immediate operative treatment, the consent of the patient to this operation must be obtained. In the experience of the older members of the community, and they are the ones concerned in the cancer problem, one after another of their friends and acquaintances has died of cancer, and many of them of recurrence after operation. Is it to be wondered at that they have little faith in the surgical treatment of the disease? They do not know that during the last twenty-five years the operations for cancer of different organs have been standardized, the patients have been operated on earlier, and the number of cures have been materially increased. They do not even know of the cured patients with whom they come in daily contact, for the cured patients do not tell, and the scars of operation are rarely visible. These are some of the facts about the disease which must be established with the laity. Such facts are given in this pamphlet, and may be used with confidence by any physician who wishes a fair statement of the situation.

(*To be continued.*)

The Management of War Hysteria.

In a paper on this subject, read at the meeting of the American Medical Association, in Atlantic City in June, Dr. Tom A. Williams, Washington, stated that nearly ten per cent. of the soldiers incapacitated during an attack are found to have hysteria. A large proportion of them can be restored immediately if skillfully managed and returned to duty without loss of efficiency. The physician must understand thoroughly the psychological mechanism of the patient and must exercise a dynamic volition which will compel him to use the effort demanded.

In the more complex cases where hysteria has become fixed individual analysis is necessary and a longer course of suggestion and persuasion. The inert man must be differently treated from the determined man. The former is the easier to cure but the more difficult to keep well.

The best method of treatment is to change the patient's mental attitude by re-educative procedure. In order to accomplish this it is essential that the physician be able to enter into the thoughts and feelings of the patient. It is then easy to modify his viewpoint and lead him out of the woods into the light.—(*Author's Abstract.*)

Correspondence.

BIRTHS AND DEATHS SHOULD BE ACCURATELY REPORTED.

Richmond, Va., July, 1919.

Virginia Physicians:

For statistical purposes and legal record, the accurate and legible report of births and deaths is as important as promptness.

We estimate that ten per cent. or more of our appropriation is consumed in clerk hire and postage, simply to secure accurate statements as to causes of death, omissions from certificates of births and deaths, and the correction of other errors as to names, dates, place, color, sex, legitimacy, etc.

Probably our greatest item of expense is due to the custom which some physicians have of delivering all certificates to willing registrars, instead of to the one in charge of the locality in which the births occurred.

This causes dissatisfaction with the correct registrars, and leads to many resignations of trained and efficient men. Please bear in mind also that delayed reports add greatly to our labor, and delay us in mailing the Child Bulletin and birth card to the mothers, who have learned to expect them promptly. Besides this, the law requires births to be reported within ten days. The observance of care as to these points is our chief request now.

A few do not seem to realize that our twofold aim in reference to the midwife, is first, to educate the public from her to the physician, and at the same time to render her less unsafe, by requiring her to register with the local registrar, and thus come within reach of our influence and instruction.

You can aid greatly by teaching cleanliness to each with whom you are thrown, and by seconding our injunction not to make vaginal examinations. They cannot be depended upon to sterilize their hands, though we do urge them to use mercuric iodide soap for themselves and patient.

We have succeeded in reducing our list of midwives from 9,466 to 5,916, though the smaller number, owing to our agitation and the scarcity of doctors, reported during 1918 22,887 births out of a total of 65,859 (including 3,008 still births), as against 21,889 reported by them during 1917 (including still births). In reporting a puerperal death, always so state when it is a midwife case, especially if septic. We desire to make a statistical study of their work.

During the last three months of 1918, nearly 12,000 deaths from influenza were reported. The total to date will probably reach 15,000 or more. Please bear in mind the fact that the U. S. Bureau of the Census expects us to query deaths from pneumonia and broncho-pneumonia, to learn whether or not influenza, measles, whooping-cough or other cause, is the primary and real cause. If pneumonia is the only cause, write as contributory cause, "None." If other disease or cause was primary, pneumonia can be given as a contributory.

W. A. Plecker, M. D.,
State Registrar.

The Three Crosses.

The Iron cross is black as death and hard as human hate;
The wooden cross is white and still and whispers us, "Too late";
But the Red Cross sings of life and love and hearts regenerate.

The iron cross is a boastful cross and marks a war-made slave;
The wooden cross is a dumb, dead cross and guards shallow grave,
But the Red Cross reached out its arms to solace and save.

The iron cross is a Kaiser's cross and narrow is its clan,
The wooden cross is a soldier's cross and mourns its partisan,
But the Red Cross is the cross of One who served his fellowman.

EDMUND VANCE COOKE.

(Paris edition, American Red Cross Bulletin.)

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Editorial.

Action of Hydrochloric Acid on Gastric Function.

Physiologists find great interest in discussing hydrochloric acid in gastric juice, not alone because it is found to be an important factor in its action upon both the food and the stomach itself, but also because of the very interesting fact that this mineral acid is secreted in the stomach and that it is the only secretion of the body containing a free acid. It is generally believed that the border cells constitute the acid secreting cells. (Howell). As they are located in the middle portion of the stomach, in greatest number, it is here that acidity is greatest. The pylorus and fundus are comparatively free from acid-forming cells. Now, since no acid is found in the blood or lymph, it is quite apparent that these specialized cells in gastric mucosa take out of the blood the chloride (probably sodium chloride); and, by breaking up this salt and combining with hydrogen,—hydrochloric acid is secreted in the stomach. It should be recalled that in the pyloric region of the stomach the pepsin forming glands are located chiefly.

It is not our purpose to discuss the general subject of gastric functions but to limit ourselves to a comment upon the action of hydrochloric acid as the stomach performs its function. We may first note briefly the action of HCl upon food. Pepsin acts only in hydrochloric acid medium on proteins. The passage of the protein to the peptone under the influence of pepsin, in a hydrochloric acid combination, is a complicated one but generally this process is said to pass from native protein to acid albumin (syntonin) to primary proteoses (pro albuminoses) to secondary proteoses (dextro-albuminoses) to peptone (all through a process of hydrochloric acid-pepsin action). One should recall that this gastric action upon protein is merely a preliminary step and, as such, serves as a necessary factor in duodenal digestion when the pancreatic juice further acts upon it.

In this connection experimentation in the field of gastric motility reveals some interesting facts. The usual meal requires some 300 to 400 contractions of the stomach to lift it to, and expel it through the pyloric outlet. This work is performed by the stomach through several general influences. The chief of these influences is the hydrochloric acid control of the pylorus. The acid chyme of the stomach is thrown through the pylorus into the duodenum and this causes contraction of the pylorus. The pylorus remains closed until the alkaline juice of the duodenum neutralizes the injected stomach juice and, when this is accomplished, the duodenal pylorus again opens. This process goes on constantly until the stomach is practically empty; and when the normal stomach is fasting it remains in a state of recurrent contraction. Hunger is caused by rhythmic contractions of the nearly empty stomach. The stomach is never completely empty. It contains a residuum of 20 to 50 c. c. of hydrochloric acid and pepsin chyme. When the food is swallowed an increase of flow of gastric juice occurs. Peristaltic contractions are accelerated. The food-chyme, mixed with acid and pepsin, presses from the parsmedia into the pylorus. This makes a constant pressure upon pyloric sphincter.

The nature of the food is a factor entering into this emptying-time of the stomach in addition to the degree of acidity of the chyme poured through the pylorus. The protein influences a slower and more prolonged closure

of the pylorus than the carbohydrate diet. It is known, also that the protein diet is slower to initiate pyloric opening. The protein unites with much of the free HCl; and it excites a larger secretion of HCl and, as a result, tends to delay gastric emptying. Cannon has shown that at the end of a half hour eight times as much of carbohydrate is absorbed as protein.

There is also another factor acting upon the stomach secretion through nervous innervation. Interpretation of gastric unbalance, through the contrary nervous inhibition of vagotonia and sympathocotonia, is as yet unsatisfactory in practical fields of medicine. However, spasm of the pyloric sphincter, deep spastic contractions of the stomach and hourglass incisure of the stomach, are muscular disturbances consonant with excessive hydrochloric acid. On the other hand, persistent low state of hydrochloric acidity tends to induce tardy and lazy contractions of the stomach and, further, to favor a patulous pylorus. This latter condition results in premature emptying of imperfectly acidified gastric contents into the duodenum, which in turn sets up serious gastrogenic disturbances. As hydrochloric acid serves so important a function, when this acid appears in the stomach in excessive amounts it necessarily sets up gastric symptoms, rather than proper gastric functions. And so this acid juice plays an important role in the symptomatology of gastric dys-function and gastric disease.

Married—

Dr. Stuart McGuire, Richmond, and Miss Ruth I. Robertson, of Walkerton, Canada, formerly superintendent of St. Luke's Hospital, this city, August 12.

Dr. Robert Finley Gayle, of this city, and Miss Elizabeth Marshall Cole, Raleigh, N. C., August 16.

Dr. James W. Tipton, Dublin, Va., and Miss Alpha Heath Johnson, Hillsville, Va., July 23. Dr. Tipton has only recently returned from army service.

Dr. Wester Ghio Suiter and Miss Nancy Elizabeth Joyner, both of Garysburg, N. C., July 16. Upon their return from their wedding trip, they will make their home in Weldon, N. C. Dr. Suiter has recently received his discharge from service in the army.

News of M. C. Officers.

Dr. J. Morrison Hutcheson, of this city, who was in command of base hospital No. 60 on the Meuse front with the rank of major, has returned home, the unit having recently been mustered out at Camp Sherman.

Major Waller Nelson Mercer, of this city, who expected to return home in July, received orders at the last minute which necessitated his continuing his overseas service. He is now in charge of evacuation hospital No. 49, located at Coblentz.

Capt. M. C. Sycle received his discharge from Ft. Benjamin Harrison, Ind., in July and, after a short visit in New York, returned to this city, where he will limit his practice to urology and the treatment of syphilis.

Major Gerald A. Ezekiel, who has been overseas for two years as surgeon with the 311th Field Artillery and who, since his return to this country, has been attending the Mayo Clinics at Rochester, Minn., has returned to this city to resume his practice.

Dr. A. Barnes Hooe has returned from overseas duty with the U. S. Army, and resumed his practice at 1220 Sixteenth Street, Washington, D. C.

New Member of State Board of Health.

Governor Davis, on the first of this month, appointed Dr. G. L. Morriss, of Buckingham, Va., a member of the State Board of Health, to succeed Dr. Reid White, of Lexington.

Dr. and Mrs. William Branch Porter,

Richmond, visited relatives in Powhatan County, this State, last month.

Dr. and Mrs. J. L. DeCormis

And son returned to their home in Accomac, Va., the latter part of July, after enjoying a trip to Toronto, Thousand Islands and Niagara Falls.

Dr. and Mrs. James H. Smith,

Of this city, have been the recent guests of friends in Fredericksburg, Va.

Dr. and Mrs. D. A. Kuyk

Are motoring in the north, and will not return to their home in this city until early September.

Victoria to Have Small Hospital.

A small but up-to-date hospital is to be erected in Victoria, Va., by Drs. E. L. Kendig, of Victoria, and W. D. Kendig, of Kenbridge.

Dr. B. Ashby Pope,

Of Newsoms, Va., is spending a few weeks in New York, where he is taking a post-graduate course at the New York Post-Graduate Medical School and Hospital.

Dr. Sidney B. Trattner,

Recently returned from army service, announces the opening of his office at 114 North Fifth Street, for the practice of Ophthalmology.

Lynchburg Healthy Place.

It was announced on August 11th, that Lynchburg, Va., had not had a death among its white population in seven or eight days, except one man who committed suicide. Even this death occurred in the suburbs and not in the city proper.

Dr. and Mrs. E. B. Talbot

Have returned to their home in Richmond, after a visit to Atlantic City.

Dr. and Mrs. Harry Wall,

Of Claremont, Va., stopped for a visit in this city last month, en route from New York to their home. Dr. Wall recently returned from overseas service in the army.

Dr. William B. Hopkins,

Who has been attending the Mayo Clinics at Rochester, Minn., since his discharge from the army, has returned to this city and is located at 421 East Franklin Street.

Colored People to Have Hospital.

On the 15th of this month, the colored people of Washington County, Virginia, and Sullivan County, Tennessee, launched a campaign for the purpose of raising $20,000 to be used in the erection of a modern new hospital for the use of the colored race in these two counties. It will most probably be built in Bristol.

Dr. H. Stuart MacLean

And family, of this city, have returned home from a motor trip which included the Valley of Virginia and many northern points of interest. On the trip they went as far north as Connecticut.

Medical Society of Virginia.

The semi-centennial meeting of the Medical Society of Virginia will be held in this city October 28-31 inclusive, under the presidency of Dr. Ennion G. Williams, who is also State Health Commissioner. This meeting promises to be unusually attractive as it will bring together many doctors who have seen service in the world war, and will thus be not only a medical meeting but a reunion of doctors and friends.

Make your plans to attend. Officers of the Society or members of the local committee on entertainment, named in our last issue, will gladly furnish any desired information.

Dr. Southgate Leigh,

Norfolk, Va., was recently appointed chief surgeon of the Virginian Railway, and Dr. J. H. Culpepper, also of Norfolk, was appointed assistant to the chief surgeon.

Dr. W. R. Williams

Returned to his home in Richlands, Va., last month, after a two weeks' stay at the Mayo clinics.

Dr. DeJarnette Vindicated.

The many friends of Dr. J. S. DeJarnette, superintendent of the Western State Hospital, Staunton, Va., will be pleased to know that in the recent suit for $50,000 instituted against him by a former patient, the jury rendered a verdict completely vindicating the plaintiff of the charges brought against him.

Dr. Bernard Kyle,

Lynchburg, Va., was a visitor at Natural Bridge, Va., early this month.

Dr. and Mrs. Hugh M. Taylor,

Of this city, have been visiting in Winchester and Clarke County, Va.

Addition to Be Made to Stuart Circle Hospital.

An extensive addition is to be made to Stuart Circle Hospital, this city, in the near future. This will consist of a new wing to the south end of the present building. It will

contain forty-two additional beds for patients, a number of offices for physicians, and the necessary diet kitchens and baths.

Dr. J. B. Fisher,

Midlothian, Va., has been made president of the Nuttree Mill Company, recently organized in Midlothian and incorporated with a minimum capital of $10,000. This will reopen a splendid flour and corn mill at that place.

Dr. Joseph A. White,

Of this city, is at the White Sulphur Springs, W. Va., for his annual summer's visit.

Oxford Orphanage to Have New Hospital.

Work has been commenced on the $75,000 Hicks Memorial Hospital at the Masonic Orphan Asylum in Oxford, N. C. The building is to have three stories and be capable of accommodating fifty patients.

Obituary Record.

Dr. Robert Semple Bosher, Jr.,

A prominent physician of this city, died at his home July 20, after an allness of only a week. His death came as a shock to both relatives and friends as he was apparently in the best of health to a short time before his death.

Dr. Bosher was born in Richmond 44 years ago. He received his academic education at the University of Virginia and later studied medicine at the Medical College of Virginia, from which he graduated in 1900. He then took a special course of study in both New York and Vienna. Upon his return home, he became identified with the Medical College of Virginia Dispensary and devoted much of his time to the fight against tuberculosis in this city. He was a pioneer in the establishment of tuberculosis clinics in Virginia, was greatly interested in the work of Pine Camp Hospital for tubercular patients and was one of the founders of Stuart Circle Hospital.

Dr. Bosher was unmarried. He is survived by his mother, two sisters and a brother. He was a nephew of Dr. L. C. Bosher, of this city.

RESOLUTIONS ON THE DEATH OF DR. ROBERT S. BOSHER, JR.

WHEREAS, It has pleased Almghty God to remove from our midst, DR. ROBERT S. BOSHER, JR., who for fifteen years has been a valued and beloved teacher in the Medical College of Virginia, of which he was also a distinguished alumnus, therefore, be it

RESOLVED, First: That the faculty in meeting assembled wish to place on record their appreciation of his services to the College, particularly in the highly scientific and painstaking work he has done in the College Free Dispensary, and also their appreciation of his character as a man.

Second: That these resolutions be placed on the minutes, published in the daily press, Virginia Medical Monthly and a copy be sent to the family.

CHAS. R. ROBINS,
GREER BAUGHMAN,
MANFRED CALL,
STUART McGUIRE,
ALFRED L. GRAY,
Committee.

The following resolutions were adopted at a meeting of the Richmond Academy of Medicine and Surgery held on the 21st ult.

WHEREAS, It has pleased God, in His wisdom, to remove from our midst ROBERT SEMPLE BOSHER, JR., be it

RESOLVED, That the Richmond Academy of Medicine and Surgery has lost a valued member; the medical profession of the city an esteemed colleague; and the poor—particularly those afflicted with tuberculosis—a real friend who was always ready to help them not only medically but financially. The science of medicine was more attractive to him than its practice, except when his time and abilities could be utilized in doing some real good; then he gave without stint all that was in him. And be it further

RESOLVED, That these resolutions be spread upon the minutes of the Richmond Academy of Medicine and Surgery, that they be published in the daily papers and the Virginia Medical Monthly, and that a copy be sent to the bereaved family:

CLIFTON M. MILLER,
E. C. LEVY,
P. D. LIPSCOMB,
Committee.

Dr. Alexander George Crockett

Died at his home at Max Meadows, Va., July 27, after a long period of illness, aged 57 years. He was a graduate in medicine from the Vanderbilt University, Nashville, in 1885. Dr. Crockett was prominent in his section, both professionally and personally. He represented his district in the Senate of Virginia for the term preceding the present one and was a candidate for re-election, but withdrew owing to his rapidly failing health.

Dr. Crockett was twice married. He is survived by eight children and a large family connection.

Dr. C. T. Lewis,

Until about a year ago a practising physician of Staunton, Va., died at his home at Ft. Defiance, Va., July 22, aged 66 years. He was a native of Washington, D. C., and moved to the Valley of Virginia about thirty-four years ago. He studied medicine at the George Washington University Medical School, from which he graduated in 1878. His second wife survives him.

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Original Communications.

FLAT FEET.

By W. L. POWELL, M. D., Roanoke, Va.

The term flat foot is a relative one so far as function is concerned. The foot should be judged by what it can do, rather than by the height of the longitudinal arch. An important phase of the work of orthopedic surgeons in the army was to determine the ability of the foot of an individual to bear strain. To do this with any degree of accuracy it is necessary to take into consideration not only the height of the longitudinal arch, but still more important, the muscular development of the foot, the ability of the individual to correct any apparent abnormality voluntarily, and to determine whether the range of dorso-flexion, plantar-flexion and inversion were normal. It is necessary to observe any areas of callosities beneath the heads of the metatarsal bones, to prescribe proper shoe correction and foot exercises for those potentially weak, and to distinguish between the malingerer and those who really were suffering from foot abnormalities. The result of this work has impressed the profession with the great number of weak and flat feet present in young men. This was one of the most frequent causes for rejection and classifications of men "For domestic service only." It seems wise to bring this matter to the attention of the general practitioner, that he may be on the lookout for these conditions that remedial measures may be applied early.

In considering the pathological conditions of the foot it must be regarded as an active organ of locomotion rather than a passive support, and a knowledge of its various ligamentous, bony and muscular structures is necessary in order to interpret the pathological.

The foot is composed of tarsal, metatarsal and phalangeal bones held together by interosseous and capsular ligaments. The motion between any two bones is very limited, but considered in the aggregate it is a decidedly mobile organ. The longitudinal arch extends along the inner side of the foot from the head of the first metatarsal bone to the internal tuberosity of the os calcis, the highest point being at the neck of the astragalus. This arch is maintained by strong fibrous bands or ligaments which function as the strings of a bow, and on these falls the strain of maintaining the arch in its normal position when one is standing, but they are aided and supported to a marked degree by muscular structures when the foot is used in locomotion. The four ligaments most depended on to maintain the longitudinal arch in its normal position are the internal calcaneo scaphoid, the plantar, long and short, the deltoid, and the plantar fascia. The internal calcaneo-scaphoid extends from the sustentaculum tali to the scaphoid running beneath the head of the astragalus, but not attached to it. The plantar ligaments extend from the os calcis in front of the tuberosities to the base of the metatarsal bones and act as a longer string to the bow, the plantar fascia being the longest and most superficial of the strings. The deltoid, extending from the internal malleolus to the os calcis and tuberosity of the scaphoid acts as an upright support.

The long extrinsic muscles, having their origin on the anterior surface of the leg, are depended on to take the strain off the non-elastic ligaments. The tibialis anticus coming down the leg in front of the internal malleolus is attached to the internal cuneiform and the base of the first metatarsal; the tibialis posticus, descending behind the internal malleolus, is attached to the tuberosity scaphoid. These are the most important longitudinal support. Between the strings of the bow are the flexor, abductors and adductor muscles of the foot which, if properly developed, play an important part in maintaining the arch in its proper position.

The transverse arch extends from side to side from the midtarsal joint to the heads of the metatarsal bones, resting on the heads of

the first, fourth and fifth, forming the anterior extremity of the tripod on which the foot stands.

In civil practice we are not concerned to any extent with malingers. Patients come to us because they are suffering and want relief, and will usually give us their full co-operation as long as they are suffering, but unfortunately are apt to discontinue treatment as soon as relief is obtained and before cure is effected. The most frequent causes of foot disabilities are tight and improperly fitted shoes, poor muscular development, faulty foot positions, both standing and walking, infection, undue strain on poorly developed muscles, following illness, walking on hard surfaces, congenital or certain occupations demanding standing for long hours, such as waiters, cooks, etc.

The chief requisite in the proper shoe is that it should be broad enough in the fore part to allow the intrinsic muscles room for their proper action and this will lead to their proper development. The heel should be tight enough to prevent slipping, should be concave on its upper surface, and about one inch high, placed beneath the heel of the foot rather than slanting forward. A line extending from the inner side of the heel to the ball of the great toe should be straight. The shank should be moderately firm and convex upward. It is very difficult to get a woman to wear the proper shoe; in fact very few are made, and in the best of these some concessions are made to the prevalent idea of style. Poor muscular development is usually the result of tight shoes and sedentary life, the intrinsic muscles not having a chance to function properly.

A line dropped from the middle of the patella should fall along the line of the second metatarsal bone or between that and the first. When toeing out is practiced this line falls inside this point, and the maximum of strain falls on the high part of the longitudinal arch. If the practice is continued it is apt to be followed by a descent of the arch, the head of the astragalus slips downward and inward, the tuberosity of the scaphoid and internal malleolus becomes very prominent, and the foot is abducted both in front and behind this point. If there should be any foci of infection present at this time from which absorption is constantly taking place, there is a strong probability that there will be arthritic changes and we will have more or less permanent deformity, rigid, pronated flat foot. This condition gives rise to the shuffling gait in which the feet are used as props rather than flexible organs of locomotion. In this position the head of the femur is rotated forward, the anterior half of the pelvis is tilted upward, one of the frequent causes of backache.

It is not infrequent for foot disability to develop in persons who have had good serviceable feet before an acute illness. They are allowed out of bed too early, usually wearing slippers; the muscles are weakened by disuse and diseased processes, and, on attempting the normal activities before these have recovered, symptoms of foot strain develop, which, if not recognized and treated early eventually become a source of permanent discomfort. Infection of any kind, but especially gonorrhea, may produce arthritic changes with consequent pain, tenderness and permanent rigidity.

In infancy there is no longitudinal arch, but as the bony ligamentous and muscular structures gradually develop in a normal way one is formed. Unfortunately some cases fail of the normal development in this respect, and we have what is termed congenital flat foot. Nearly all the disabilities of the longitudinal arch may be benefited if not cured, but the longer the disability the more fixed the bones become in their abnormal position, the longer will be the period of recovery. This cannot be accomplished without the faithful cooperation of the patient and, to secure this to the fullest extent they should be seen frequently and impressed with the fact that if faulty foot position and lack of muscular development persists their disability will return regardless of any mechanical device which may be used. The army has converted many to the sensible shoe, yet it is to be regretted that many discard the lesson which they have learned with their uniform, and put on their improper shoes with their civilian clothes.

The best results in treating flat feet are obtained, as would be expected, in those who are seen early. It must be remembered that it is not necessary that the longitudinal arch be down, as the early stage of flat foot, that is, foot strain, is often seen in those who have a high arch. A diagnosis must be made on the subjective symptoms of a pain across the dorsum, the inner side of the foot, painful heel and in the calves of the legs. Objectively, there will be found points of tenderness over the

attachments of the astragalo-scaphoid and plantar ligaments. The ligaments themselves have no sensory supply, but pain is experienced at their periosteal attachments.

Occasionally this condition will require absolute rest in the early stages of its treatment, but can usually be corrected by proper shoes, the teaching of proper feet positions, exercises designed to develop both the intrinsic and extrinsic muscles, and a support of felt either strapped to the foot or placed permanently in the shoe beneath the inner sole. Metallic arch supports, if used at all, should be made to fit the individual foot, and then in exceptional conditions, should they be worn for a conisderable time. Unless they are properly selected and properly fitted in cases in which they are used they may do a great deal of harm by traumatizing the already injured structures. They may give temporary relief, but are not conducive to the proper development of the muscles which are depended on to ultimately cure the condition.

Physicians should discontinue the practice of sending patients, consulting them for foot trouble, to a shoe store to "get an arch support." Shoe clerks, as a rule, know nothing about the pathological condition of the feet and will sell the most expensive supports whether they are needed or not. It is due these patients that they should have the same careful examination and treatment as you would give them if they were suffering with some complaint which you considered "in your line."

In cases in which arthritic changes have taken place no effort should be made to correct the faulty position as long as the infection is active. Absolute rest and elimination of the foci of infection are the first requisites, and later, when the acute symptoms have entirely subsided and the foci have been removed, adhesions may be broken up and the foot put in an over-corrected position.

A congenital flat foot should be put in an over-corrected position as early as possible and maintained there while walking, until the bony ligamentous and muscular structures have developed sufficiently to maintain the foot in a normal position.

In the different stages of flat foot, between foot strain, rigid flat foot and congenital flat foot, there are found numerous conditions which have their different requirements so far as treatment is concerned. Flat foot in its different stages is one of the most disabling conditions with which we have to deal, and probably the most neglected by the general practitioner. If recognized early and proper treatment is given, no class of cases give better results.

TREATMENT OF CHRONIC PYELITIS.

By S. BEVERLY CARY, M. D., Roanoke, Va.

By pyelitis we mean an inflammation of the kidney pelvis without involvement of the parenchyma. Pyelonephritis is the term applied when the infection spreads to the substance of the kidney. Should suppuration take place we have a pus kidney, which is known as pyonephrosis. However, in this paper, I will deal only with the chronic simple form of pyelitis.

It might be well to discuss the disease briefly before taking up the treatment. Before the advent of the cystoscope and ureteral catheter, very little was understood in regard to the diagnosis and treatment of surgical conditions of the kidney. The diagnosis must necessarily have been inaccurate and the treatment conducted in a rather inadequate way.

Pyelitis may be unilateral or bilateral, the latter being more frequently found. The method of invasion may be hematogenous, lymphogenous, urogenous, or by direct extension. It is sometimes difficult to determine in a given case which route is the source of infection.

Among the predisposing causes which are most common in pyelitis are those producing mechanical pressure, such as a neoplasm or gravid uterus, acting by interfering with the local blood supply; or an obstruction which interferes with the outflow of urine, giving rise to retention and stagnation. The immediate etiological factor is bacterial, the colon bacillus being most frequently found. However, we must bear in mind that the mere finding of bacteria in the kidney pelvis does not mean pyelitis, because bacteriurias of pelvic origin are common without signs of inflammation. Next in frequency to the colon bacillus is the staphylococcus albus and aureus. Of the two the latter is the more common. The least frequent invaders are the streptococci, pneumococci, bacillus proteus vulgaris, bacillus typhosus, gonococcus, bacillus mucosus capsulatus, etc.

The diagnosis of pyelitis should be by exclusion. To insure the best results the predisposing factor must be determined and removed so far as possible before direct treatment is instituted. To make an accurate diagnosis the ureters must be catheterized and the specimens obtained studied by culture and by microscope. In many cases it is advisable to inject the kidney with thorium nitrate or sodium bromide and radiograph to determine whether there is tissue destruction, and, if so, the extent of it. The phthalein functional test is of the greatest value in determining whether there is serious parenchyma involvement. The differentiation of a simple pyelitis from pyelonephritis would be practically impossible without the aid of a functional estimation. In pyelonephritis the phthalein output is decreased in proportion to the amount of tissue destruction, and in simple pyelitis the output ranges within normal limits.

Cystitis of some degree is practically always associated with an infection of the upper urinary tract, the bladder symptoms varying according to the degree of infection and the acuteness. All cases of cystitis, especially those which respond slowly and of the recurrent type, should undergo a cystoscopic examination and, at the same time, catheterization of the ureters. It is a great loss of time and an inconvenience to the patient to continue a treatment for cystitis when there is an infection of the upper urinary tract which is continually descending in the urine. Experience with these cases has taught me to look upon a cystitis as only a part of an infection of the urinary tract until it has been demonstrated conclusively by careful examination that nothing else exists which could be responsible for the symptoms complained of.

After an accurate diagnosis is made and predisposing causes are removed so far as possible, treatment is instituted at the earliest moment. Renal lavage is the most important procedure at our disposal and is the one on which we base our results. Many lavage solutions have been recommended, but at the present time we find that silver nitrate in 1 per cent to 3 per cent solution gives the most gratifying results. We begin with a 1 per cent solution and inject 5 to 10 c.c. by the gravity method. The strength of the solution is increased at each sitting. These lavages are given at from five- to seven-day intervals, the total number varying according to the individual case. However, from three to five are usually sufficient. A rather severe reaction sometimes follows from injections of strong silver solutions, but it is attended with no harmful results. This reaction is probably due to a congestion of the ureter produced by chemical irritation. In the majority of instances the inconvenience complained of is referable to the bladder which is more sensitive to strong silver solution than the kidney pelvis, as the former has a more abundant nerve supply. However, the bladder irritation can in a large measure be prevented by injecting several ounces of saline into the bladder before withdrawal of the catheters. The saline protects the bladder by taking up the silver as it comes from the ureters.

In conjunction with the treatment outlined, autogenous vaccines are sometimes given. We begin with a very small dose and gradually increase until there is a well-marked local and general reaction. The dosage necessary for this reaction is the maximum amount that should be used at each succeeding injection. It is difficult to say whether or not vaccine therapy is of much value in this class of cases, as I have always used it with a more rational method of treatment and never alone.

Internal administration of drugs is carried out as a matter of routine, as well as the general line of treatment recommended in this type of disease.

During the past three years quite a large number of pyelitis cases have come under my observation. Nearly all of them were put on the treatment outlined. The results have been uniformly good, and in many cases the progress has been so rapid as to exceed all expectations. Before these patients are discharged, a careful microscopic and bacteriological examination must be made of the catheterized specimens, and at least two negative cultures should be obtained before we can be reasonably sure there will not be a return of symptoms at a future date.

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RADICAL MASTOID OPERATION: INDICATIONS.

By ELBYRNE G. GILL, M. D., Roanoke, Va.

The organ of hearing consists of three portions: the external, middle, and internal ear. The external consists of the auricle and exter-

nal auditory meatus. The former is of little importance physiologically; the latter is the canal which leads inward to the tympanic membrane.

The middle ear is composed of the tympanum, the mastoid antrum, and the mastoid cells. The tympanum, an air chamber, communicates with the naso-pharynx by means of the Eustachian tube and contains a chain of movable bones—the mallens, incus and stapes. The mastoid antrum and mastoid cells are air chambers accessory to the tympanum.

The internal ear, the innermost, and, at the same time, the essential part of the organ of hearing, is situated in the substance of the petrous portion of the temporal bone and consists of two sets of structures. First, a series of cavities hollowed out of the bone and constituting the bony labyrinth; these cavities are continuous with each other and are named from below backward the cochlea, vestibule,and semi-circular canals. Second, a membranous labyrinth situated within, but not nearly filling the bony labyrinth. The bony labyrinth contains perilymph and the membranous labyrinth the endolymph and the auditory nerve.

We will briefly mention the difference between the simple mastoid and radical mastoid operations. In the simple mastoid we operate to *reliere* an acute condition of the middle ear and mastoid cells, while a radical mastoid operation signifies one which aims to relieve chronic middle ear suppuration. The simple operation consists essentially of removing the mastoid cortex, the underlying diseased cells, opening and thorough drainage of the mastoid antrum, and in nearly every instance in an adult, the removal of the mastoid tip. The radical mastoid operation consists in a conversion of the middle ear, antrum and any diseased spaces within the mastoid into a single cavity, which is primarily drained through the external auditory meatus and ultimately lined by integument continuous with that of the membranous canal.

Before going into the different steps of the radical operation we will say something of the etiology, symptoms and signs of chronic middle ear suppuration. This is a term applied to any tympanic inflammation giving rise to a perforation of the drum membrane which shows no tendency to heal and through which there is a more or less constant flow of pus.

Probably 20 per cent of all cases of chronic middle ear suppuration are traceable to the infectious diseases of childhood, such as scarlet fever, diphtheria, measles and whooping cough. Influenza also contributes its quota. Repeated attacks of acute otitis media almost invariably develop into chronic aural suppuration. *Adenoids* predispose the child so markedly to acute middle ear disease and interfere so effectively with spontaneous recovery that they must be included among the active causes of chronic purulent otitis media. This explains in some degree the greater frequency with which the disease develops in childhood as compared with adult life. Practically every case of chronic aural suppuration can be prevented if proper care and management are given to the first attack of acute purulent otitis media.

A suppurative process which by extension may reach the labyrinth, the brain cavity, or lateral sinus, is capable of producing a varied and complex phenomenon, but for the sake of brevity we will say, aside from the discharge and the physical signs viewed through the aural speculum, many patients endure these lesions for years without pronounced symptoms either local or systemic.

The two cardinal symptoms are the discharge and impairment of hearing. The discharge ranges anywhere from a slight, intermittent, muco-purulent, to one that is constant and profuse. The discharge is in some cases so indescribably offensive as to constitute in a degree a social barrier between the patient and his fellows.

To a certain extent the hearing is impaired in almost every case of chronic suppurative otitis media and varies anywhere from very slight to almost total deafness.

The treatment consists of local and of surgical measures, and it is the latter we will take up. The surgical treatment consists essentially of the radical mastoid operation. Chronic aural infections may be divided into three classes: (1) Those cases of intra-tympanic infections with little or no involvement of the attic; (2) Those cases involving not only the tympanum but the attic, antrum, and—to a limited extent—the mastoid; (3) Those cases involving the intra-tympanic attic, antrum and mastoid structures as well.

The infections in class one are as a rule confined to mucous membrane, the discharge usually coming from the Eustachian tube. Hearing is good and the condition is in no way a

menace to the patient's life, hence no operation required.

In the second class of cases, we are dealing with infections that are apt to give rise to intracranial complications. Some of them are border-line cases and require quite a little study in deciding whether or not operation is to be advised.

The infections in class three are those in which the radical operation is most frequently indicated. These are the neglected cases and have existed over a long period of years. The hearing is generally very poor, the tympanum filled with foul-smelling pus and granulation tissue, the ossicles are necrosed and the mastoid shows a general involvement or is completely sclerosed. All cases of cholesteatoma, facial paralysis and intracranial complications call for immediate radical operation.

In doing the radical mastoid operation the surgical procedure is susceptible of considerable variation and several different methods are credited with excellent results. Mention will only be made of the most important steps in the operation.

The incision begins below at the tip and follows a curved direction behind the ear to a point above the upper attachment of the auricle, its center being one inch behind the post-auricular attachment. This incision divides all structures down the bone until the temporal ridge is reached, while above it only reaches the temporal fascia. The skin and periosteum are elevated in the usual way, great care being taken not to tear the periosteum which is destined to form the outer wall of the cavity proposed by the operation.

We now open the mastoid antrum by means of a gouge and mallet. We then proceed to remove the posterior bony canal wall, having already separated the membrano-cartilaginous meatus. After removal of this structure we reach what is known as the "bridge," a thin piece of bone formed by the inner margin of the postero-superior canal wall and it separates the dural plate from the facial ridge. The removal of this remaining structure presents some difficulty, certainly to the beginner, on account of the danger of injury to the bend of the facial canal and horizontal semi-circular canal which lie beneath. We now remove, by means of a small ring curette, all granulation tissue, diseased mucosa, necrosed ossicles, pus, etc., from the middle ear, care being taken not to rupture the capsular ligament which holds the stapes within the oval window. Next we lower the facial ridge to the extreme limit of safety, then clean out the epitympanic space, which requires removal of all zygomatic cells, leaving the hard, smooth, white dural plate of bone; then reduce the convexity of the anterior wall of the tympanum, then obliterate the hypotympanic space by removing the remains of the annulus tympanicus and any cells which may be found, so that there is no reservoir left in which the discharge may collect. We then curette the Eustachian tube thoroughly, removing all muco-periosteum, lowering the ridge of bone at the outer rim, being mindful that the internal carotid artery lies below and behind the tube. Finally, as a last procedure, we inspect the entire cavity to see that all surfaces of bone must be perfectly smooth and inclined to the external meatus. By removing all convex surfaces we accomplish two very important things: first, we enable ourselves to get a good view from the meatus of every part of the middle ear and Eustachian tube: second, we give the middle ear and Eustachian tube the best possible drainage.

We now pack the cavity with adrenalin gauze and proceed to cut the fibro-cartilaginous meatus. Using a blunt-pointed, narrow-bladed bistoury, we insert it into the meatus with the flat side on the floor of the meatus. We cut backward and gradually swing upward in a semi-circle with the idea of ending the incision at the base of the helix. This flap is turned backward and the newly-made meatus should admit a good-sized finger. All cartilage and *sub-mucous* tissue are dissected from the skin flap and removed. The flap is sutured with ten-day chromic gut to any part of the subcutaneous tissue or periosteum which is necessary in order to draw the flap well up.

At this stage of the operation probably a majority of otologists pack the cavity with iodoform gauze and close the primary incision. Dr. Dench, of New York, advocates in all cases using a primary Tiersch skin graft cut from the thigh, regardless of whether the dura or sinus is exposed, except those which are acutely inflamed, those in which there is a fistula in a semi-circular canal or other opening into the labyrinth, or those in which there is an unhealthy condition of dura or sinus or the presence of symptoms of labyrinthine or meningeal irritation. Having had the oppor-

tunity to assist Dr. Dench in many of his cases and to look after the post operation treatment, thus watching the results, we are convinced that the use of the primary skin graft, in a radical mastoidectomy, shortens the period of convalescence.

Our views concerning the radical mastoid operation are, in a great part, a by-product of our personal experience which consists first, of our observation of a hundred or more cases operated by other surgeons, many of which we have assisted and most of which we have treated after operation.

Second—Ten cases operated by ourselves.

From these ten radicals we are able to report the following results:

Deaths	0
Complete facial paralysis	0
Partial facial paralysis	0
Intracranial complications	0

In regard to the hearing and discharge we can only report the conditions of the patients on leaving the hospital, which was from three to four weeks following the operation. In each case the discharge was lessened and in about half of the cases the discharge was scarcely noticeable. The hearing was not impaired in any case and in several it was improved.

It is objected that the radical mastoid operation is injurious to the hearing and fails to stop the discharge. Answering these objections briefly, we will say that if the proper judgment is exercised in selecting cases for operation and every detail of technique of operation strictly adhered to and eternal patience and perseverance practiced in the post-operative treatment, these objections will be found to be more apparent than real.

Lastly, it has been objected that the radical operation is too severe and dangerous. That it is not severe is shown by the facts that the great majority of cases never have a post-operative temperature above 101 degrees and the temperature seldom lasts more than four or five days, generally a shorter period, and the patient is up in four or five days, suffering little, if any, inconvenience.

That it is not dangerous is shown by the great infrequency of post-operative intracranial complications in cases of the surgeons who have done a large number of operations, while on the contrary complications are very common with chronic purulent otitis media, and frequently more fatal than they are with infections occurring elsewhere in the body. Hence, when properly performed the radical operation is a much less frequent source of danger than the chronic infection.

Conclusions.

The published records of many operators added to our observations upon cases which we have seen and upon those which we have ourselves operated lead us to feel justified in drawing the following conclusions:

1st.—The radical mastoid operation is not indicated in all cases of chronic aural suppuration.

2nd.—That it is possible to get dry cavities in most cases.

3rd.—The hearing in the average case should be improved.

4th.—With proper technique the operation is not dangerous.

5th.—That the condition calling for operation is usually a very dangerous one and that it is too frequently dealt with lightly.

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A TRUE AND TRIED TRIO.*

By ROBERT H. GARTHRIGHT, M. D., Vinton, Va.

"Man that is born of woman is of few days" * * * "He cometh forth as a flower and is cut down." "All flesh is as grass; the grass withereth and the flower thereof falleth away."

Human life is so very brief that man with his little brain has time to thoroughly learn but a few things. He who tries to obtain an accurate and comprehensive knowledge of a multiplicity of subjects, only succeeds in barely delving beneath their surface.

Hence the medical man, after getting a general knowledge of the remedies used in the treatment of diseases, should select a few of the best, study their action, and learn when and how to use them to the best advantage.

Among the drugs that have made for themselves names that will live as long as the human body shall suffer aches and pains, are,

Calomel, Castor Oil and Turpentine.

These are three good and useful remedies. The first two are workers, the last one is a healer—so taken and accepted by mothers as well as physicians. They are old and faithful

*Read at a meeting of the Roanoke Academy of Medicine.

friends of mankind, good for sick babies, grown men and women, octogenarians and centenarians.

They have cured croup, cramps, and many other complaints in the past, and, if allowed the opportunity, will do the same through the years to come. They are effectual in the treatment of the diseases of lawyers, editors, preachers, teachers, medical students, clerks and stenographers, and all persons, especially those of sedentary habits.

The first two are brain clearers. Given when needed in that capacity they will help preachers preach better, lawyers plead better, authors write better, and roentgenologists see diseased conditions of bones, etc., that actually exist.

We are informed that castor oil was known and used by the ancient Greeks and Egyptians. About the year 866 B. C. the prophet, Jonah, after his shipwreck and remarkable experience with the sentient submarine, and after having preached to the wicked Ninevehites, in a state of weariness and despondency, sought a place of solitude, and wished to die: but under a castor oil vine he found shelter from the hot rays of the sun, probably ate the fruit thereof, received energy and comfort, and went on his way rejoicing in his strength.

For centuries the product made from the bean the vine bears was neglected and apparently forgotten, but about 145 years ago Peter Canvane, a physician who practiced in the West Indies, wrote a treatise recommending its purgative principles, and its uses were restored.

Recall for how many diseases calomel is recommended by any work on the practice of medicine, and let each recall also his own experience with it. Surgeons have long recognized its capabilities and potentialities. Few patients have been operated on in Roanoke who have not been given calomel or castor oil, or both.

Let a child receive a penetrating wound of the foot, or cut its hand, the doctor, if consulted over the telephone, will tell the mother, if she has no other antiseptics convenient, to wrap it in a dressing saturated with turpentine, and the healing will usually be prompt and sure. And is not a plaster made from "pine tree rosin" and bound to the small of the back, good for lumbago?

Have those of us who prescribe the various remedies that claim to be intestinal antiseptics and often secure unsatisfactory results, forgotten the fact that our grandfathers cured their typhoid patients with oleum terebinthinae: cured a larger percent than did the boomed and boasted *acetozone* a few years ago?

Turpentine is known to be valuable in the hemorrhage of typhoid, in overcoming tympanitis in the stage of convalescence from this disease when diarrhea and relapse occur from unhealed Peyer's patches: it is good in catarrh of the respiratory system, in certain diseases of the urinary organs, as well as in various other disorders.

What is better than calomel, followed by castor oil and turpentine in cleaning the intestinal tract of the various families of worms? Verily, they are health-givers and life-savers.

Mercury has from time immemorial been used internally in vomiting and in correcting and preventing digestive disorders: externally, parasites, animal and vegetable, can be destroyed, ulcers and sores coaxed to healing, and eruptions made to disappear.

Take these three remedies, use them intelligently, and it will be found that they will cover a vaster therapeutic field, probably, than any other trio to be found in the materia medica.

The average human machine is abused by its owner, and the most common form of abuse is in surcharging it with food and drink that produce toxins. These toxins must be eliminated through the natural sewerage channels, and there are no better assistors to elimination than the ones under consideration.

Then, to aid the function of micturition, give comfort in rectal diseases, knock the kinks out of colic in babies, "move the misery" from the paunches of pickaninnies, to relieve the engorged liver, to soothe the pains caused by congestion of the mucous lining of the intestines, to heal wounds and bruises and putrifying sores, to lighten the imaginary loads of evil that press down upon the hypochondriac, calomel, castor oil and turpentine have no equals.

When analysts and practitioners and reviewers shall have by experiment and observation eliminated from the Pharmacopœia all the remedies proved to be without potency for good, among the few really valuable drugs will be these three—calomel, castor oil and turpentine.

New and numerous articles from the manufacturing houses come daily to our doors. Representatives, brilliantly verbal, tell of their

marvelous capabilities and induce us to try them. Some of them are good, and many of them prove worthless, and, if for a time we cast aside some of our old and faithful friends for others, we regret our neglect and, sooner or later, call them again to our aid.

Let us "rejoice evermore" in the results we get from the true and tried remedies, and determine to "Hold fast to that which is good."

THE WHY AND THE HOW OF ELECTRONIC (RADIANT) FORCE—PHYSICAL DIAGNOSIS — CORRELATION WITH GROSS AND MEDIUM METHODS—SOME REMARKS ON SYPHILIS

THESIS No. 5.*

By H. E. JONES, M. D., Roanoke, Va.

In order to understand the *why* and to learn the *how* of refined diagnosis and apply it, one has to be a theoretical or practical physician or both; a theoretical or practical physicist or both; a theoretical or practical chemist or both. Most of you, if not all, possess all of these requirements to a degree and what you do not possess you can acquire with a few months of diligent study.

We should all remember that there is no royal road to fortune; to perfection or near-perfection in our line of work. Both states require work, work, work; therefore we will throw aside ultra-conservatism and indifference and put ourselves in the best condition possible to render the best service (whether new or old) extant, that these modern times require.

The reason why we should learn refined diagnosis is because that it will enable us, with facility and exactness, to recognize diseases in their incipiency, which we cannot possibly do with the gross and medium methods of diagnosis alone. The latter two methods are exact, positive and certain, only in far-advanced cases of any disease. As it is our duty to secure all the evidence for single and differential diagnosis of each and every disease, at whatever stage, we are enjoined to correlate the methods and their findings, of refined, medium and gross procedures. All three of these procedures require a medicinal education and added knowledge of physics and chemistry, theoretically and experimentally, and ability for their practical application.

All of you are acquainted with most (if not all) of the gross and medium methods, but to a lesser degree with a part of the refined methods, and not acquainted at all with a portion or part of the latter method. This fact is the reason for the writing of this paper.

It is up to me to show the *how* of the method, which I will endeavor to do in as short a space and time as possible, by giving you later on a condensed abstract of Dr. Abrams' methods.

As to the how of refined methods, it is important for me to state that we are to deal with both gross and infinitesimal matter and radiant force and with both organized and unorganized matter and radiant forces. We are also to deal with the four states of matter and radiant force, which are the following, viz: solids, liquids, gases and radiant matter, and we are also to deal with the life of the organism and its radiant forces. The ultimate structure and properties of all of the above were treated of and described and definitions given under the head of "Physics and Chemistry" in Theses numbers 1 and 2. It is not necessary to go into them again, as we shall take it for granted that they are understood for all practical purposes by all of us.

As to the *how* of the refined method, we are to deal with the patient and in some cases with a subject, other than the patient, as well; with the disease and the effects of its radiant force on the splanchnic vessels through the splanchnic reflex vasodilator and constrictor center. When the force or forces of the disease or diseases is or are conveyed to this center, after the conditions for the examination are complied with—as to the position of the patient or subject with the axis of the earth, the arrangement for the grounding of extraneous forces, etc.—the rest is a matter of percussion and its interpretation before the disease's radiant force is conveyed to the spinal center and after it is conveyed, and a comparison of the two findings made.

We are told that the sensitivity of the brain and spinal reflex centers surpasses any instrument that has ever been invented by man. Example, the effects of light, which is a radiant force, upon the center that controls the contraction and dilatation of the pupil of the eye. The vasodilator center of the cord located between the third and fourth dorsal vertebrae is just as sensitive as the eye reflex center, and this fact is also true of all the other reflex cen-

*Written June, 1918.

ters of the spinal cord. All of these centers are extremely sensitive to the different types of radiant force.

Now, *it is these reflex centers and their marked sensitive response to the radiant force of diseases of which we take advantage and utilize for the purpose of refined and differential diagnosis of any disease.*

The following is Dr. Albert Abrams' method for electronic diagnosis: "(1) Face patient (or subject when used) standing, due west. Place feet on an aluminum plate grounded with conducting wire to faucet or water pipe leading to ground.

"(2) Percuss and mark lower border of liver of patient or subject. Then place receiving electrode over the source of energy, blood or diseased organ of patient, and place the other electrode between the third and fourth dorsal spines of the patient or subject. Between the third and fourth dorsal spines is the location in the cord of the reflex center of abdominal blood vessels. In 30 seconds a specific area of abdominal dullness will be elicited and persists during energy flow."

Illustration of Dullness.

"(1) Carcinoma area of dullness just below and merging into lower border of liver, left side, vertical 4 c.m; transverse 9 c.m.

"(2) Syphilis area of dullness above navel on either side of median line, 6 c.m. vertical; 5 c.m. transverse.

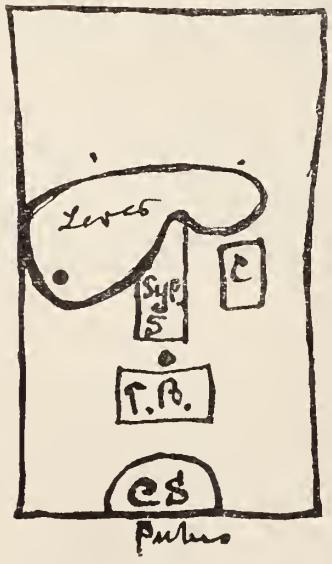

Fig. 1.

"(3) Tuberculosis, just below navel 3 c.m. vertical and 5 c.m. transverse.

"(4) Differentiation of congenital syphilis from acquired syphilis. Place receiving electrode over either closed eye of patient and the other electrode between the third and fourth dorsal spines (splanchnic center) of subject or patient (in auto-examination). In congenital syphilis, the area peculiar to syphilis appears, but measures in its transverse diameter 10 c.m. in lieu of 5 c.m. This reaction not present in acquired syphilis in absence of ocular luetic lesion. In congenital syphilis when energy is conveyed from spine or liver of patient, there is, in addition to the epigastric area of dullness, an area measuring 10 c.m. vertically and 12 c.m. horizontally, beginning midway between the navel and symphysis pubis and extending to the latter. See figure 1."

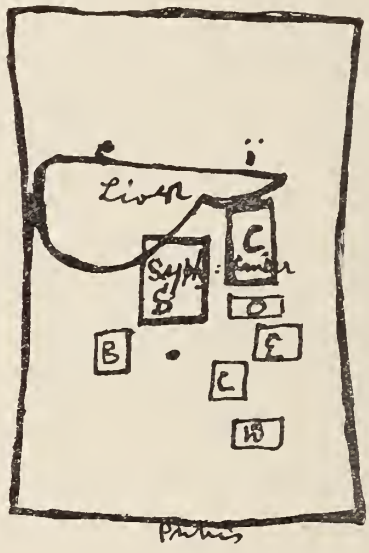

Fig. 2.

"(5) Ventral areas of dullness in syphilis when the spinal energy in this disease is conveyed to the area between the third and fourth dorsal spines: figure (2) syphilis area in all cases of syphilis irrespective of special structure invaded. In addition to the latter the area *B* is present in cardiovascular lesions; *C*, lesion of spinal cord and nerve roots; *D*, eye lesions; *E*, pulmonary lesions; *O*, also site of dullness in dementia paralytica, from energy conducted from spine of *patient* to subject (or to patient in auto-diagnosis), and this site was determined from three luetic subjects who finally developed paresis. All children of syphilitic parents are syphilitic."

"Tabes, paresis, aneurism, apoplexy before 50 years of age, is due to congenital or acquired syphilis; 50 to 55 years is due to cardio-renal disease when syphilis is not present."

"Stigma of hereditary syphilis—Argyll-Robertson pupil (nervous syphilis), tubercle of carrobelli on molar teeth—auricular and digital signs of Abrams—slow and sluggish in congenital syphilis."

"Tubercle carrobelli is a supernumerary cusp on palatine surface of upper large molars; also take notice of Hutchinsonian teeth.

"Auricular sign is a distinct ridge from antitragus to near end of lobule. Digital sign, inward curve of little finger."

Electronic Reaction With Blood.

"(1) A few drops of blood dried on slide or white paper will, when presented directly to the splanchnic center between third and fourth dorsal vertebrae of the subject, or patient, in auto-examination, yield the characteristic splanchnic area of dullness. (The radiant force from the blood will stimulate the spinal center just as light will the pupillary center.) This holds for active syphilis, tuberculosis (active or quiescent) and carcinoma. In the afflictions named the dried blood yields a reaction for about 10 days—in syphilis for several weeks. The blood reaction is a general one, indicating the disease is somewhere in the organism, localization of which is possible by methods cited above.

"In presenting the blood specimen side of paper or slide to spine, grasp it with a long pair of wood forceps or have an assistant to hold it at its extreme edge during the time percussion is executed."

"(2) Polarity (which is used for purpose of refined diagnosis). Radiant energy in disease has a distinctive polarity and is detected by presenting a bar magnet about four inches away from the area of ventral dullness. If the dullness persists with the positive pole (marked N) thus presented and disappears with the negative pole (marked S), the polarity of the radiant energy is positive and *vice versa*. If it persists with both poles, it is positive and negative, and if it is dissipated by both poles it is neutral (isopolar). Polarity of carcinoma is positive—and neutral in syphilis and tuberculosis."

"Potentiality—An ohmmeter or galvanopathometer is necessary, an instrument for demonstrating the specific radiant energy of disease." (This is necessary for refined diagnosis.)

"Note distance the receiving electrode is from the source of energy before dullness appears. An ohmmeter scale is graduated 1/25 of an ohm to one (1) ohm and then up to 50 ohms. To use the rheostat, place the receiving electrode, say, over a cancer, and the other electrode between the third and fourth dorsal spines. At zero of scale the specific dull area is present. Now interpose more resistance until dullness disappears. If dullness does not disappear until index registers 10 ohms, then energy has a potentiality of 10 ohms."

"In cancer the force varies from one to 30 ohms. In quiet syphilis reaction may not exceed 2/25 ohms; active may exceed 10 ohms. Healed tubercular lesions force 2/25 ohms; active, 20 ohms. In quiet, healed tuberculosis the reaction is present when the receiving electrode is in contact with the spine. If reaction is elicited exceeding one inch from skin, TB is active. In one case receiving electrode was seven inches from skin and the reaction appeared." In order to make as near a positive diagnosis as it is possible to make in any case: first, the history is obtained; second, patient is partially or completely stripped, as is found necessary, and is inspected from crown of head to soles of feet for the purpose of finding visible external physical defects; third, every part of body, head and limbs is searched for local infections; fourth, a conservative physical examination is made of nervous system, vascular system, respiratory, digestive, urinary and genital organs.

If by these methods and an ordinary laboratory examination, a diagnosis is made, so well and good, we proceed no further. If a satisfactory diagnosis is not made, then we bring to our aid the fluoroscope, radiographs and the refined or electron method of diagnosis. The latter findings are to be correlated with all of the above methods which will, 95 to 100 times out of a hundred, enable us to make a positive and early diagnosis in all simple, plain, apparent and obscure cases.

A word in regard to syphilis, mostly made known by electron or radiant force reactions.

"Syphilis is practically the basis of general pathology.

"The Wassermann test out of 100,000 reactions was negative in from 31 to 56 per cent of cases in which syphilis could not be positively

excluded. Syphilis may sleep, but it never dies, despite treatment or duration of the disease. The electronic reaction is never absent." "We *may* be all civilized, but we *are* all syphilized."

"When the voltage of the radio-active energy of the blood of any individual is augmented about 1300 per cent by an induction coil, the reaction of congenital syphilis is always elicited."

"In an analysis of 1,000 specimens of blood the electronic reaction of congenital syphilis showed 45 per cent in contrast with only 18 per cent of the acquired form. This is the case when the voltage was not increased by the use of the induction coil."

"No one can be a hypochondriac at pleasure; many of such sufferers yield to anti-syphilitic treatment." "Hibernation of spirochetes in the spleen permits luetic reinfection of the body." "There are three known specifics for syphilis: mercury, arsenic and iodine. The Chinese, as far back as the year 2637 B. C. (or 4,555 years ago) used mercury for syphilis and it is still pre-eminently the true specific. With mercury alone we can apparently cure syphilis—with mercury plus salvarsan we can do it better; we cannot do it with salvarsan alone. Mercury and arsenical preparations subdue acquired syphilis. Congenital syphilis is subdued by iodine or a salt of mercury containing it.

"Syphilitic infection must always be considered in all chronic diseases.

"When your diagnosis goes amiss always think of syphilis.

"Fournier says that 98 per cent of the children of syphilitic parents are syphilitic. The electronic (radiant force) reactions show that they are all syphilitic.

"Slow or sluggish pupil (reflex to light) is fairly constant in congenital syphilis, irrespective of implication of nervous system.

"Argyll-Robertson pupil is regarded as positive proof of nervous syphilis."

Auricular and digital signs of syphilis are given above.

"The vasomotorial sign—face the subject west, or patient, with feet on grounded plate, elevate the hands, a circumscribed pallor at end of fingers, notably the little finger will appear. The hands must be held between the observer and a bright light."

TEXTS—New Concepts in Diagnosis and Treatment. Journal of Physico-Clinical Medicine.—Abrams.

Published by Philopolis Press, San Francisco, Cal.

A REPORT OF TWO CASES OF PERSONAL INTEREST—A WORD IN DEFENSE OF THE TONSILS, AND PARTICULARLY AS RELATED TO SINGING-VOICE PRODUCTION.*

By M. R. FAVILLE, M. D., Roanoke, Va.

At a recent meeting of this Academy, a very interesting and instructive paper on the subject of tonsils was read by one of my contemporaries and it was right thoroughly discussed. Unfortunately I was not present and, if in this brief monograph there is a repetition of some of the points brought out at that meeting, I ask your indulgence.

In speaking of a normal faucial tonsil, one means the tonsil situated between the anterior and posterior pillars of the fauces on either side, in healthy condition, and of such size as not to project beyond the lines of the palatine arches nor press upon surrounding tissues, and of a size so small as not to interfere with the perfect outlines of the walls of the pharynx. There may be a personal idiosyncrasy in which large tonsils project beyond the palatine arches, but ordinarily a normal tonsil is hidden behind the anterior faucial pillar.

Most of us believe that a normal tonsil should not be molested and it is generally conceded among well-informed rhinologists and laryngologists that the paramount treatment for diseased tonsils is complete removal of all tonsillar tissue. In my opinion this treatment should have its restrictions and two cases in my experience have led me to this conclusion.

It is known that in childhood the tonsils are composed of lymphoid tissue, to meet the demands of the various infections to which childhood is so susceptible, and in adult life they are, as a rule, fibrous from repeated attacks of inflammation or irritation. The late Wm. L. Ballenger agreed with many other recognized authorities, such as Sir Morrell Mackenzie, Holbrook Curtis and others, that in adult life the tonsils serve no good purpose and that they should be removed when they give rise to the slightest trouble.

Diseased tonsils are a menace to the individual and as such should be removed, but occasionally a case presents itself which in my opinion should not be treated by complete re-

*Read before the Roanoke Academy of Medicine, January 20, 1919.

moval. It is true that many authorities have stated that they have seen no ill effects upon the voice by the removal of tonsils and go so far as to say that the voice invariably is improved. With the speaking voice this may be true, but I cannot find, in the literature on the subject at my disposal, where any surgeon claims that the singing voice of an adult has been improved by the removal of tonsils. The enunciation may have been improved or the nasal quality of the voice partially eliminated and the voice made larger in some instances, but in my experience the adult voice-resonance-chamber has been frequently changed by this procedure and not invariably for the better.

The voice, like musical instruments, has its sounding board. If a violin string were stretched across a heavy slab of wood or marble the tone given off would be weak and disagreeable—it would be devoid of overtones or harmonics which make it pleasing to the ear. This same string when properly adjusted on a violin gives forth a tone of sweetness and power as the sounding-board adds the overtones to the fundamental tone of the string; the fundamental tone predominates while the overtones so blend that they give color or timber. This is as true of the vocal cords as the violin string—the sounding board being composed of the head and chest; these include the pharynx, epipharynx, the nares, the accessory nasal cavities and the mouth. The soft palate acts as a valve which regulates the amount of vibrating air going to the nose and mouth. By this and the compression of the buccal walls the quality of the resonance is regulated to suit the singer's vocal expression. The anterior pillar, containing the palato-glossus and the posterior pillar embracing the palato-pharyngeus muscles act as a modulator to the voice by co-ordinating with the movements of the soft palate.

Such men as Curtis and Mackenzie say they have never seen any ill effects from tonsils having been removed, but in all probability these men did not consider the effects on the singing voice though Curtis has treated many grand opera singers. In many cases I have noticed no changes in the voice after tonsillotomy or tonsillectomy, but in two of my cases the after-effect has been too pronounced to pass unnoticed. The tonsils of adult singers who come to me for treatment are apt to receive a little more respectful consideration than those possessed by one who does not sing, and it is because of these two cases in which the singing voice was noticeably changed by the operation.

Case one was a man of 30 who possessed a beautiful tenor voice of "appealing quality" if you will allow the term; he was a salaried man who sang in church in order to augment his small income. When he came to me he had had three attacks of tonsillitis during the previous three years and insisted upon the removal of the offenders. I advised him of the possible impairment of his voice, but he was willing to take the responsibility, and I was assured that they would be removed by some one else if I refused. The tonsils showed every evidence of the attacks he had mentioned, but were no worse than many tonsils whose possessors gave no history of trouble. In removing them, especial care was taken not to injure the pillars of the fauces. The result, from an operative standpoint, was all that could be desired, and although this man retains his position in musical circles in his city there is missing that sympathetic quality or timber in his singing that was so pronounced before the operation.

Case two was a young woman of twenty years of age, who at the time of her first visit at my office, was a student in a southern college for girls. Her major subject in this school was voice culture, and she had the promise of a brilliant future. After the experience with case one I was reluctant to operate.

Her tonsils as in case one showed evidences of diseased crypts, the tonsillar tissue considerably hypertropied and hyperemic. The physician who referred her to me said he would have some one else remove them if I refused, for he felt sure that their removal would not impair her voice. The tonsils removed from this case, although they have been in alcohol five and one-half years and are not in very good state of preservation, show that they were removed intact and that in all probability the pillars to which they were attached were not mutilated, else the tonsillar surface would show the evidence. As far as one is able to judge from observation, the function of the soft palate and the muscles composing the anterior and posterior pillars was not impaired. This mutilation, according to most authorities, is the cause of impairment of some singing voices after tonsillectomy.

Dr. Ballenger states that this change in the

voice is temporary, but in the cases cited no improvement can be detected. It has been five and a half years since case two was operated and the voice, though still large and resonant and possessing many admirable qualities, has lost, and I believe forever, that rich, sympathetic quality so enviable in all singing voices. In this class of cases I would advise the patient to keep the crypts of their tonsils free as far as possible from accumulation of food, tissue debris and bacteria. This cannot always be done as occasionally the crypts are capped over by an overlying membrane, particularly in the supra-tonsillar space and the antero-inferior portion of the tonsil which is covered with the plica triangularis, but as a rule these crypts can be opened and carefully curetted. After this should be inserted an applicator saturated with a solution of glycerated tannic acid and iodine (1 dram of iodine tincture to 1 ounce of glycerated tannic acid). This not only acts as a bactericidal agent, but, in hypertrophied and hyperemic tonsils, has a tendency toward reducing them.

It is well for these patients to thoroughly inspect their tonsils every few days, and not to wait until symptoms arise before treating them. Occasionally one finds a patient who, on account of an extremely sensitive throat, cannot care for their own tonsils, but ordinarily singers' throats are under good control of the mind and they find no difficulty in treating themselves. If this treatment of keeping the crypts free from accumulation of food, bacteria, etc., does not alleviate the condition, the diseased portion should be completely removed, saving as far as possible all tissue not involved. It has been impossible to find any literature on this subject and if this brief monograph has reminded you that tonsils possessed by singers should be considered with greater respect than they ordinarily receive and thereby save the singing-voice for its possessor, and incidentally the reputation of the surgeon, I shall have accomplished my purpose.

Though many surgeons remove only tonsils that are a menace to their possessor, it is certainly true that many men (and particularly the young and enthusiastic just leaving special training) remove many harmless, innocent victims and believe in so doing they have removed the source of all ills. Most modern surgeons are in accord with an eminent New York specialist in his summary of a paper on the subject written over four years ago in which he says:

1. That the tonsils have a definite function in early childhood.

2. That tonsils should not be removed unless there is some especial indication before four years of age.

3. That small, buried tonsils associated with enlarged cervical glands should always be completely removed unless some other definite cause is found for the condition.

4. That tuberculosis is often found to be of tonsillar origin.

5. That one of the most important points to be considered in judging whether a tonsil should be removed or not, is the size of that tonsil in relation to the individual throat.

6. All tonsils, large or small, when seriously interfere with respiration should be removed.

7. That many local pathological conditions are caused by diseased tonsils.

8. That many cases of middle ear catarrh could be prevented by removal of the tonsils.

9. That there is a distinct relationship between the tonsils and many general diseases.

10. And, finally, that the promiscuous removal of the tonsils of children, without the finding of some associated pathological condition, is pernicious; and that all cases demanding operative interference should be carefully selected.

SOME GUY ROPES FOR THE DOCTOR IN PRACTICE.

By J. D. Willis, M. D., Roanoke, Va.

The blunders from omission are far greater than from commission in medical practice: consequently it is desirable to fix firmly in our minds certain procedures which are of paramount importance in the proper understanding of diseased conditions.

We must guard against jumping at conclusions, and thereby eliminate the errors in snapshot diagnoses. We should cultivate an investigative spirit in practice, and make use of aid which is available from associates in medicine by reason of their greater experience and specialization. We should secure complete data on the case under study, then analyze it with open mind, and draw our conclusions from the recognized variance from normal.

A complete history, physical examination, and necessary analytical work should be made

on all patients except those that have manifestly a local ailment or minor injury. Foci of infections must be conscientiously searched for in all cases where it is possible that such foci may be present.

The aid gotten through the specialties of internal medicine—neurology, eye, ear, nose and throat, urology, Roentgenology, and laboratory—will be found to give the greatest assistance in the proper understanding of cases. Local troubles and skin diseases should be so proven by excluding constitutional trouble with local manifestations.

A complete urine examination should be made routinely on all patients. A complete blood count should be made on all cases who are below par physically. A lenkocyte count, total and differential, should be made on all cases who show a rise in temperature above normal or show a regional complaint of any kind. Catheterized urine should be examined chemically and microscopically in females suspected of acute inflammatory disease of the abdomen or pelvis. A functional kidney test should be made in all cases where it is possible that a kidney lesion may be present. Blood nitrogen chemistry should be done on all cases of suspected nephritis. A catheterized urine sediment should be stained for tubercle bacilli in all cases in which there is a tubercular process suspected or proven in the body.

All exudates and transudates should be examined by stained smear and culture. This includes specifically all pus discharges or accumulations wherever found in the body, and also all accumulations of fluid other than pus. In securing these exudates and transudates for examination it will be necessary to use the puncture needle and syringe often. With a proper knowledge of anatomy this can be done safely in a great many body locations. For instance, for diagnostic purposes, when in doubt as to whether there is a pleural accumulation or not, aspirate and, if material is found, examine it in the way previously suggested. Stool examination should be made in the warm state on all patients that are below par, or that show definite chronic disease, or show acute intestinal derangement.

A blood Wassermann test should be made on all cases that are not clearly understood. A spinal fluid study should be made on all cases showing symptoms of organic or functional nervous trouble (excepting brain tumor cases). A spinal fluid Wassermann test and cytological study should be made on all known syphilitic cases at the end of the first year after infection, or as soon as the diagnosis is made in the event the infection had taken place prior to one year before. A spinal fluid Wassermann and cytological study should be made on every case where syphilis would explain the symptoms, even though a blood Wassermann is negative. Make use of the Wassermann test to control the treatment of syphilitics according to the detailed plans advised by the United States Public Health Service. Make a careful study of *The Manual of Treatment of the Venereal Diseases* which is distributed by the United States Public Health Service. If the teachings of this manual should be carefully carried out by all civilian doctors, the greatest service to humanity which is in their hands will have been rendered.

Blood cultures should be made in septic and typhoid states. A Widal agglutination test should be made in suspected typhoid states. Blood sugar estimation should be made in all cases showing glycosuria. All tissue removed that cannot be accurately diagnosed macroscopically should be sectioned and microscopically studied. Bladder inspection by cystoscope should be done in all suspected cancer states of the genital or urinary tract. Catheterize the bladder completely in all cases of rapidly appearing abdominal or pelvic tumors.

The examination of sputum for tubercle bacilli should be made in all cases where the expectoration is continued longer than the usual time for clearing up of an acute process. Remember that very common locations for foci of infections are around the teeth, in the tonsils and sinuses, and in the prostate gland, and no examination is complete without proving that these areas are free from active infection.

TREATMENT OF BURNS.

By FAUNTLEROY FLINN, M. D., Roanoke, Va.

The following observations of burns and their treatment were made during two years' service at Dupont Hospital, City Point, Va. There was an average of one or two new cases each day.

The causes of the burns were as follows, frequency in the order named:

Acids or acid solutions;

Caustics or caustic solutions;

Hot water;

Flame—exploding gun cotton; exploding gasoline;

Hot metal;

Electric.

The area burned varied anywhere from a few scattered spots, one-quarter of an inch square to about four-fifths of body area in one case, in which patient fell into a tub of boiling acid solution. Only two-thirds of one arm, head and neck were not burned. Needless to say, he died in a few hours.

The portions of the body most frequently burned were in the following order: Hands, forearms and arms; feet, legs and thighs; face and neck; scalp; eyes (goggles were worn); trunk; buttocks and genitals.

First degree burns were comparatively infrequent and, with a few dressings, usually healed without trouble, the patient seldom stopping work. Burns of any consequence about the eyes were referred to an eye specialist.

Treatment.—As most of the burns were from acids or caustics, the first treatment was administered by a fellow-workman at the scene of accident. This consisted of a thorough washing with plain water and, in case of acid burns, an application of soda bicarbonate; then the burned area was covered with boric acid ointment.

On admission to the hospital, the parts were again thoroughly cleansed, washed with soda bicarbonate solution, and dressed with a thick layer of boric acid ointment. The dressing was changed every 24 hours until pain ceased, which was usually on the second or third day. At this time the ointment dressings were stopped and paraffin was used in the following way:

The burned area and surrounding normal skin were carefully cleansed with some mildly antiseptic solution and thoroughly dried by an electric hot air blower or by simple exposure to the air. In the meantime the paraffin had been melted in a double boiler. This was now applied to the dried surface by a soft brush or atomizer in a thin layer, extending well over the edges of the normal skin. Next a thin layer of ordinary absorbent cotton was placed and covered with a thick layer of paraffin, going well over the edges of the cotton, making the whole as nearly air-tight as possible. A gauze bandage was then applied over this dressing to hold it firmly in place. This gave a neat, comfortable, pliable and thoroughly protective dressing, which could be easily removed. By starting at one edge the whole could be lifted off with practically no pain to the patient.

In second degree burns, where the sloughings and secretions were small in amount, once in 24 hours was sufficiently often to change the dressings. Second-degree burns usually had little or no infection and healed readily in two to six months, according to the extent of area involved.

It was the third-degree burn, involving considerable area with deep sloughs and abundant secretions, that gave the trouble. They always had a foul odor and most usually became infected. The usual paraffin dressing could be used continuously until the beginning of the second or third week. At this time the secretions became copious, the sloughs began to separate, and the odor was very foul. Then it was impossible to use a continuous paraffin dressing which would prevent the escape of the secretions.

I found the following a useful procedure: About 9 o'clock each morning remove the paraffin dressing, cleanse the area of all secretions by irrigation with a mild antiseptic solution and mopping with cotton and trim away as much of the sloughing tissue as possible. Now put on a wet dressing, a pad made of cotton covered with gauze. Permanganate of potash, 1-6000 to 1-2000, is an excellent solution for wet dressings as it diminishes the odor and retards the infection. Keep the dressing warm with hot water bag. The wet dressing is used until 3 or 4 o'clock in the afternoon. The area is then exposed to the air for several hours, or at least until it is dry. Around 6 p. m. or later the paraffin dressing is applied and the patient is usually comfortable for the night.

This combination of wet dressing, open air and paraffin methods in 24 hours is troublesome, but it gives the patient the best result, with the least discomfort, in the shortest space of time.

After the burned area has become sufficiently clean, the paraffin dressing once in 24 hours is resumed.

As to the selection of the kind of paraffin to be used, this is a minor consideration. I do not believe that the many medicated and antiseptic paraffins on the market are of special benefit. The amount of antiseptic coming in contact with the infected surface is too small, also they seem to crack and break easily after applica-

tion. I found the commercial or ordinary surgical paraffin to be the tonghest and most pliable.

The principal thing is to sterilize the paraffin each day, cleanse and dry the surface thoroughly and put on a sufficient quantity over enough area to give complete protection.

Although I kept no records, in comparing the amount of scar tissue formed after the use of paraffin with that after other methods of dressing burns, yet I do not believe that paraffin prevents formation of scar tissue, *except* that it is the most aseptic and protective dressing we have and we are more careful in cleansing the burned area, consequently there is no infection or only a slight amount. I do not believe it has any inherent quality that prevents scar tissue formation.

As far as I can see paraffin is the best dressing for burns that we have at our command. It is superior to other dressings in the following points:

1. Easily sterilized each day.
2. Easily applied.
3. Easily removed.
4. Most protective.
5. Clean.
6. Comfortable.
7. Inexpensive.

6 *Kirk Avenue, S. W.*

Proceedings of Societies, Etc.

HISTORY OF THE ROANOKE ACADEMY OF MEDICINE.

The Roanoke Academy of Medicine had its origin about the year 1895. The earlier records of the Society having been lost, the exact date is somewhat in doubt. Our medical organization has been known as the "Roanoke Academy of Medicine Incorporated" only about twenty odd years; a society was in existence in the town prior to that time but allowed to lapse into innocuous desuetude.

The present organization had only a few members in its first years due to the fact that the profession was unhappily torn asunder by misunderstandings and local cliques. About ten years after its formation all differences were healed, which circumstance came about in a unique way. Certain of the younger element tendered the older men a banquet at the Ponce de Leon Hotel; someone in a spirit of mischief heavily "spiked" the punch, which resulted in most of those who partook thereof reaching a state of ultra happiness. That night enemies of years "kissed and made up."

It can be truthfully stated today that the members of the Roanoke profession dwell together in harmony and have almost reached a Utopian degree in their fellowship one with another. Today the membership numbers about 71 fellows, comprising more than 80 per cent. of the regular physicians of Roanoke city and county. We regret exceedingly that a few of our prominent physicians are not recorded as affiliating with us, but hope the day is not far distant when they will join our ranks.

Largely through the efforts of the Roanoke Academy of Medicine, a competent and highly efficient Health Officer has, for the past number of years, been employed by the city. Under his supervision, a modern well-equipped laboratory is maintained, milk is rigidly inspected, food stuffs are offered for sale under sanitary conditions, vital statistics are strictly kept and the results tabulated and published from time to time, competent inspection of school children is in force, district nursing service is supervised, etc. From being at one time a town notorious for the prevalence of typhoid, the one-time so-called "Big Lick fever" Roanoke will now compare favorably with the most salubrious cities of the country in this respect; at times not a single case of typhoid has been within her borders at the height of the typhoid season.

Under the splendid regime of one member of this body, the Associated Charities of the city has co-ordinated the work of looking after the welfare of paupers and indigent sick; and the several members of the Academy are called upon in turn for a short period each for professional services. We feel our body will compare most favorably with those of like size as to quality and number of scientific essays. Our meetings are well attended and the discussions are not only interesting but of real value. We have the pleasure every year of entertaining distinguished members of the profession from far and nearby cities, and their efforts always stimulate to greater endeavors and aspirations.

As to the number of men this Society fur-

nished to the Army and Navy, articles elsewhere in this issue will set forth more exactly those who were fortunate enough to be accepted, all of whom performed their duty in a manner creditable to themselves and to their community. Those who from physical reasons or stress of circumstances could not go into actual military service, abated no effort to further the cause in every possible way and a large percentage became members of the Volunteer Medical Service Corps.

It is with sorrow we enumerate those of our number who have gone to their eternal reward, some in the fullness of years and still others in the bloom of manhood.

Among these we mention:—

Dr. Merwin Branch.
Dr. David C. Burks.
Dr. Chas. G. Cannaday.
Dr. G. W. Drake.
Dr. Richard W. Fry.
Dr. Joseph A. Gale.
Dr. I. R. Godwin.
Dr. O. W. Hacker.
Dr. J. Kinney.
Dr. J. Newton Lewis.
Dr. George S. Luck.
Dr. L. L. Schwab.
Dr. Walter S. Slicer.
Dr. F. B. Webb.
Dr. A. L. Wolfe.
Dr. Oscar Wood.

E. P. Tompkins
and
R. W. Brown.

WAR SKETCHES OF ROANOKE DOCTORS WHO HELD COMMISSIONS IN M. C., U. S. A.

We are indebted to Dr. R. L. Mason, Secretary of the Roanoke Academy of Medicine, for working up the following interesting data for our pages. This material is not alone of interest to our readers at this time but should be perpetuated in the medical annals of this State.

Ralph Waddell Brown

Born Anderson, S. C., July 9, 1867; resident Roanoke, Va., 26 years. Commissioned Captain in M. R. C., December 17, 1917; ordered to Camp Greenleaf, Fort Oglethorpe, Ga., January 22, 1918. Honorably discharged March 2, 1918, on account of physical disability existing prior to entrance into service.

W. W. S. Butler, Jr.

Lieut., (j. g.) M. C., U. S. N. R. F. Commissioned June 17, 1918, for service at Federal Rendezvous, Brooklyn, N. Y. February 18, 1919, transferred to Naval Recruiting Station at Roanoke, Va.

S. Beverly Cary

Commissioned 1st Lt., M. C., U. S. A., July 17, 1917. Reported for active duty at the Army Medical School, Washington, D. C., September 16, 1917. From there reported to the Medical Department of University of Pennsylvania for two months' instruction in reconstruction work. January 20, 1918, sailed for England to be attached to the British forces; served with them for seven months, during which time was stationed at the Welsh Metropolitan War Hospital, Cardiff, Wales, and the Special Military Surgical Hospital, London, Eng. Transferred back to the American Forces August 28, 1918, and was assigned to Base Hospital No. 8, France. Arrived U. S. A. November 20, 1918, and was assigned to duty with General Hospital No. 22, Richmond, Va. Discharged from the service March 19, 1919.

Paul Davis

Commissioned 1st Lieut., M. R. C., December 26, 1917. M. O. T. C., Camp Greenleaf, Fort Oglethorpe, Ga., February 28, 1918, to May 6, 1918. Medical assistant Base Hospital No. 54, May 10, 1918, to June 7, 1918. Left U. S. for France, August 14, 1918. Arrived U. S. from France, May 28, 1919. Received French Medal of Honor of the Service de Sante, March 18, 1919. Commissioned Captain, M. C., May 1, 1919. Discharged at Camp Dix, N. J., June 7, 1919.

T. Allen Kirk

Appointed Captain, Medical Corps, U. S. Army, September 25, 1918. Reported for active service October 10, 1918, 11th Division. Assigned to 11th Sanitary Train, Camp Meade, Md., October 10, 1918. Assigned to 242nd Field Hospital, 11th S. T., October 17, 1918. Commanding F. H. 242, December 12, 1918. Commanding 11th Sanitary Train, Camp Meade, Md., January 20, 1919. Discharged as Captain, M. C., U. S. Army, February 7, 1919.

J. Warren Knepp

Commissioned 1st Lieut., 2nd Va. Nat'l Guards, July 24, 1915. Called into Federal service with 2nd Va. Inf., June 19, 1916, for Border service. Mustered out of Federal service March 1, 1917. Called into Federal service March 25, 1917. Transferred to 115th Field Hospital, 29th Div., Oct. 1, 1917. Promoted to Captain, October 6, 1917. Arrived overseas July 12, 1918. Commanding 115th Field Hospital, December 1, 1918, to June 4, 1919. Discharged as Captain, June 24, 1919. Credit on discharge, Defense Center Sector Alsace and Muse-Argonne offensive.

George Madison Maxwell

Commissioned Captain, December 3, 1917. Ordered active duty, March 20, 1918. Chief of Sections, Eye, Ear, Nose and Throat, General Hospital No. 5, Fort Ontario, N. Y., March 20, 1918, to January 4, 1919. Discharged from service January 4, 1919. Previous military service—Corp., Co. A, 1st N. C. Volunteers, Spanish American War, April 15, 1898, to April, 1899.

William L. Powell

1st Lt., M. C. Ordered to duty in Philadelphia, January 3, 1918, for course in orthopedic surgery.

At Medical Officers' Training Camp, April 7, 1918, to May 18, 1918. At Base Hospital, Camp Sherman, Ohio, May 18, 1918, to January 7, 1919, as orthopedic surgeon. Promoted to Captain, September, 1918. Discharged as Captain, January 7, 1919.

L. G. Richards

Commissioned 1st Lt., M. C., U. S. A., July 15, 1917. Ordered to School of Plastic and Oral Surgery, at University of Pa., Philadelphia, December 1, 1917. Assigned to Base Hospital, Camp Wheeler, Ga., January, 1918. January 10, made chief of Surgical Staff. May 1, 1918, assigned to Base Hospital No. 57, Chickamauga Park. July 2, 1918, received orders for overseas duty for relief Base Hospital work. For three weeks was assigned to 54th Engineers, later assigned to duty in Base Hospitals Nos. 84, 6 and 3, and finally to Embarkation Hospital No. 1, Bordeaux. Was surgeon in charge of first transport leaving Bordeaux for America, December 23, 1918. Discharged from service at Camp Dix, N. J., January 29, 1919.

W. H. Saunders

Commissioned as Captain, Medical Corps, September 20, 1918. Reported for duty Medical Officers' Training Group, Camp Greenleaf, Chickamauga Park, Ga., September 30, and was assigned to Company 26-A, 7th Battalion, for military training, and to School of Military Surgery, under Lt. Col. Edward Martin. November 4, 1918, received orders to report for temporary duty, to Camp Crane, Allentown, Pa., and to obey orders to port of embarkation from the commander of Base Hospital 124. Remained at Camp Crane until December 18, 1918, time of discharge.

J. D. Willis

Commissioned as First Lieutenant, Medical Corps, U. S. A., October 1, 1918. Ordered to the Medical Officers' Training Group at Camp Greenleaf, Chickamauga Park, Ga., for instruction in School of Military Medicine. Discharged from service at Camp Greenleaf, December 18, 1918.

Medical officers of the Roanoke Academy of Medicine whose war sketches could not be obtained at this time:—

Dr. A. J. Black, (5 years' previous service) yet in service.
Dr. J. O. Boyd, yet in service.
Dr. F. A. Farmer.
Dr. Hicks.
Dr. G. S. Hurt.
Dr. A. P. Jones.
Dr. L. Justice, yet in Navy.
Dr. E. H. Muse.
Dr. R. G. Simmons.
Dr. W. S. Slicer (deceased).
Dr. Speed.
Dr. H. H. Trout.
Dr. Wolfe.
Dr. G. A. L. Kolmer, Salem, Va.
Dr. J. C. Darden, Salem, Va.

In addition to the above named doctors, two (2) colored doctors, of Roanoke, L. C. Downing and J. H. Roberts, held commissions in the Medical Corps.

Salem also sent one (1) colored doctor into service, W. E. Brown.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER, M. D., New York, N. Y.

(*Continued from page* 43)

Cyst of the Thyroglossal Duct—A Report of Two Cases.

By OTTO T. FREER, M. D., Chicago.

The anatomic origin of these cysts is described by the author. Two cases are reported.

Case 1.—Male, began to have difficulty in swallowing, and at the same time noticed a swelling in the region of the thyrohyoid space. When first seen, on April 19, 1915, the swelling had increased and there was an increase in the difficulty in swallowing, so that to make solid food go down he had to try twice and help with a mouthful of water.

Examination showed a normal nose, pharynx, larynx and esophagus. In the thyrohyoid space a cyst was felt seemingly lying underneath the sternohyoid muscles. It was of walnut size and could be felt to interfere with the ascent of the thyroid cartilage to the hyoid bone when the patient swallowed—that is, the cyst became pinched between the two structures.

Operation on June 17, 1915. After dissecting off the superficial fascia and platysma muscle from a vertical median incision, a strong, tendinous layer of fascia was exposed that was attached to the lower border of the hyoid bone above and to the border of the thyroid notch below, so firmly binding down the cyst between itself in front, the median thyrohyoid ligament behind and the thyrohyoid membrane laterally, the cyst being unable to escape from the compartment in which it was confined when pinched during swallowing. When exposed by removing the fascia described, the wall of the semitransparent cyst was found to be so frail that it could not be seized lest it tear. This made the dissection tedious, as only the tissue surrounding the cyst could be held with tissue forceps, the cyst being held aside with dull retractors. The cyst was removed unhurt from its bed and was found to end above in a fibrous pedicle that lay against the posterior surface of the body of the hyoid bone and could be followed as high up as its superior border at the level of the hyoepiglottic ligament. Removal

of the cyst exposed the median thyrohyoid ligament to view, this ligament forming the posterior wall of the compartment in which the cyst had been confined.

Microscopic section of a part of the cyst wall showed it to be composed of fibrous tissue lined with a layer of leucocytes intermingled with numerous, evenly distributed giant cells. There was no epithelium. The cyst contained a clear fluid. The removal of the cyst enabled the patient to swallow normally.

Case 2.—The second patient was a woman of thirty-two years, first seen on November 8, 1916. She had a swelling over the larynx since her tenth year. Iodin was injected into this swelling during the summer, and since this was done the swelling had gradually increased in size.

Examination showed a spindle shaped cystic tumor of the size of a walnut in the prelaryngeal region. The upper pole of the cyst could be felt to dive under the center of the body of the hyoid bone; its lower pole dwindled to a cord that could be felt to reach the region of the thyroid isthmus.

Operation under cocain on November 17, 1916. It took two hours to dissect out the cyst, as only the most delicate handling could prevent its rupture, and inflammatory changes caused by the iodin injection had made the cyst wall grow to its surroundings, so that the thyrohyoid and sternohyoid muscles were firmly joined to it in front. The upper end of the cyst ended in a cord that extended upward under the body of the hyoid bone to its upper border, where it was lost in the hyoepiglottic ligament. Below, the cyst ended in a similar cord that joined the isthmus of the thyroid gland. When freed from its bed, just before removal the cyst ruptured, thick pus escaping, a cold abscess probably caused by the iodin injection.

After the cyst was taken away, the thyroid and cricoid cartilages, upon which it had lain, were bared to view.

In the first case the possibility of the cyst being one derived from a subhyoid bursa might come into question. However, the pedicle which formed a cord passing up under the body of the hyoid bone in the location of the thyroglossal duct, showed the thyroid origin of the cyst.

In the second case the entire thyroglossal duct, expanded to a cyst in its middle, was present to prove the correctness of the diagnosis.

The County Society.

By the request of the Council, this Department is being edited by Dr. Southgate Leigh, 109 College Place, Norfolk, Virginia, to whom all communications should be addressed.

(*Explanation*: Through a misunderstanding our "copy" for the August issue did not reach the publisher in time.)

The new *House of Delegates* will meet for the first time on Tuesday morning, October 28th. Each county society is entitled to one or more delegates, according to its membership.

This places the management of the State Society in the hands of the local organizations, and completes the A. M. A. plan, which was partially adopted several years ago.

Naturally the success of the plan is dependent upon the organization and development of *active* county societies.

No local society should fail to meet and elect its representatives for the initial session.

In many sections, there has been an insistent demand that the local societies should have more "say" in the management of the State organization. Now is the opportunity to accomplish their wish.

The advantages of medical organization are so plainly apparent to every thoughtful mind that there should be little need to discuss them. And yet the fact remains that the doctors of Virginia have not yet banded themselves together in such a manner as to reap these manifold advantages.

The most recent and wonderful illustration of the powerful effectiveness of organized effort has just been demonstrated in the prompt and complete mobilizing of the resources of this country, and the dealing of overwhelming and successful blows against the common enemy of civilization.

It was *organization* that accomplished this great big thing, the biggest thing that the world had ever even dreamed of.

The labor organizations of this country are so strong, that, whether right or wrong, (which point we are not considering) they usually get what they go after. This has been strong-

ly demonstrated, during the past two years especially.

Just think, *Doctors of Virginia*, the enormous amount of power for good you will have in your hands, if you will but strengthen and perfect *your organization*. And this influence which you can wield is badly needed in our State. Our medical laws are far from perfect, our institutions are in need of more help, our State Board of Health should be given greatly increased authority and much larger appropriations.

These are only a few of the good things that you can get for yourselves and for the people of Virginia, who look up to you, respect you, and put their confidence in you, more than in any other calling or profession.

Those members of our profession who are returning from their patriotic, self-sacrificing work abroad, and who *know* what organization has done, should put their "shoulder to the wheel," and help accomplish quickly this great deed for the profession and the people.

The *foundation stone* of successful medical organization is the County Unit. Why is the A. M. A. so powerful and effective for good? Because it is composed of strong and active State Society units. And the most active and productive men in the A. M. A. come from those States which themselves have the strongest organizations.

And so it must be in Virginia. Each county, or small group of counties, must have a strong, active society, comprising in its *membership all of the regular medical men* in the community, with *regular* meetings, business and scientific, and must keep in close touch with the affairs of the State Society.

This plan is not only the ideal one, but it is at the same time, the practical, common sense one, *which must and will be carried out*.

And that brings us logically to the *individual doctor*, who is really the unit on which the whole structure rests, and on whom the entire plan depends for success, *and success we must have*.

To you, then, *Mr. Individual Doctor*, we would like to address a few words. Are you an active member of a local society, and if not, why not? You have much to gain, and absolutely nothing to lose. Is it because of dislike of some other doctor? That is now out of fashion. Men can be active working members of a society, without liking each other. Is it because you are too busy? The busiest men are the ones who take the greatest interest in the local societies.

No, it is none of these. It is because you don't realize the responsibility, you don't know what good things you are missing. If you did, nothing could keep you away.

To you who are still doubtful, let us make a proposition. *Try it.* Join your local society at once, and do your part to make it successful. If you have none in your section, organize one without delay. This department will give you full information as to constitution and by-laws and charter, and will furnish you with useful printed matter.

The educational advantages of the county society are great and far reaching. This is an age of progress and development. The doctor cannot stand still. He must either go forward or backward. Improvements in medicine and surgery are being made every day, and are being published *free* to the profession. The doctor cannot keep up with the times unless he reads, attends medical meetings, and visits the clinics. There is nothing that can do more in aiding the busy doctor along these lines, than the active county society, where he can meet with his fellowmen, weekly if possible, discuss cases, read and hear papers, and listen to reports from other meetings and clinics. It is the greatest possible stimulus to study and development. And it has now become an *actual necessity*.

What sadder sight can we imagine than a doctor with wide influence, and extensive practice, seeing his patients gradually slipping away from him, simply because he is not keeping up with the times by study and development.

The editor of this department would make an earnest appeal to *each individual doctor*, to read over again this message, think about it seriously, and determine to lend his prompt, active, and enthusiastic support, to the cause.

Collection of Dues.

In other States the dues are collected by Local Societies—in this State it is optional with each society. The important point is that the State Society needs funds especially at this time, and each member should help by paying his dues *at once*.

Reading Clubs.

There is nothing more helpful for the small

society than to form itself into a journal club, each member subscribing for one or more journals, and each making a full report from time to time of all the good things in his journals. In this way the members of a small society may, at little expense, get the benefits of from ten to twenty journals. New books and pamphlets can be handled in the same way.

Post Graduate Studies.

In some sections the county societies are carrying on post graduate studies through systematic lectures and instruction. In one State the university sends its professors out on tours of instruction to members of the county societies.

Both the need and the opportunities for uplift and development are great. Organization is the *first essential.*

The President and Secretary of each organized county society which has not been doing active work, is urged to call a meeting *at once*, invite every reputable doctor to join, ask each member to pay his State dues, appoint delegates for the October meeting, and arrange an active program for the coming months.

Regular doctors in counties where no societies have been formed, are urged to get together without delay. This department will, on application, furnish all information about applying for a charter, sample copies of constitution and by-laws, and general suggestions for the organization of an active society. *The time is short—act quickly.*

The outlook for the coming year is very bright indeed. A great deal of interest and enthusiasm is being displayed. The profession of Virginia is beginning to recognize the fact that the other States are getttng ahead of us, and many of its members have made up their minds to get to work and perfect one of the strongest and most active medical organizations in this country.

All that is needed is the earnest assistance of each physician.

Will you help?

Please drop us a card and say "*YES.*"

It will encourage us and help the good work.

Look for our final message in the October issue.

Virginia Medical Monthly

ISSUED AS VIRGINIA MEDICAL SEMI-MONTHLY, APRIL, 1896-DECEMBER, 1917.

PUBLISHED BY PUBLISHING COMMITTEE, MEDICAL SOCIETY OF VIRGINIA.

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BEVERLEY R. TUCKER, M. D., Richmond, Va.
PAULUS A. IRVING, M. D., Farmville, Va.
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Charles M. Edwards, M. D. (in Army).

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Journal.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

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Editorial.

The Roanoke Number.

We are glad to be able to devote one issue of the *Virginia Medical Monthly* to the publication of the work of Roanoke Fellows. It is the hope and purpose of this publication of the State Society to serve all its members. The difficulties of securing original articles during the past few months has been very great. We have sought aid in this matter from all sections of the State, but have been successful in only a small way. Having written letters of solicitation and besought in a personal way contributions from many, it was a peculiar pleasure for us to learn that the Roanoke Academy of Medicine had responded favorably to our invitation to furnish original contributions for one issue.

Few of our readers of the State Society know (and it is right for them to know the facts) the obstacles and difficulties through which this State journal has labored to appear each month. The story may be told at length, but the leading facts are briefly these. The Medical Society of Virginia has had no meeting for now nearly two years and so the original articles available have been few. The widespread epidemic of influenza prevented those at home from writing, while the general exodus of physicians to army service prevented author-

ship. The advertising of the journal has been thoroughly changed so that now only advertisements conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association are accepted. This work alone, without considering the financial risk involved in so radical a change of policy in the midst of war, and high cost of material, and labor disturbances, has been filled with unending demands of letter-writing and type and mechanical problems. The handicap of the limited office force of the journal has also been a factor in our difficulties. War conditions, with their uncertainties restricting our assistance and limiting the time in which the work of the journal could be executed, have made the publication of the journal along old lines very uncertain. This has almost completely prevented the making of certain changes in the several departments wholly out of the question.

One of the ideas which we have entertained, however, and which we have already made some effort to bring about, is the one which we this month present in the form of the Roanoke Number. This journal is by, of and for the members of the Medical Society of Virginia, and the Roanoke Fellows are speaking to you through its column this month.

The Factor of Technique in the Detection of the Influenza Bacillus.

Public Health Reports for August 29 states that one of the puzzling features in connection with the bacteriological investigations of outbreaks of epidemic influenza has been the varying frequency with which Pfeiffer's bacillus has been detected in different communities. There has been a suspicion that variations in technique may have accounted in large part for the varying results, and that this is an important element is shown by the following circumstances:

During March, 1919, an outbreak of influenza occurred in a western State. In this epidemic a very skillful bacteriologist failed to detect the influenza bacillus in appreciable numbers of cases, though he used approved methods which had given him positive results earlier in the pandemic.

In order to determine how far the chosen method was responsible for the failure to detect the organism, the Public Health Service detailed two bacteriologists, who had been able to isolate the influenza bacillus from almost every case in an outbreak that occurred in an eastern community, to attempt the detection of the organism in the locality where others had failed. These workers succeeded in cultivating the organisms from about 80 per cent of the cases of influenza studied. The cultures were made in four different blood media from swabs rubbed over the nasopharynx, while cultures made from the sputum of the same cases at the same time by the bacteriologist in charge still failed to show the influenza bacillus in a large majority of the cases.

This experience clearly indicates that the factors of individual technique and of experience in the isolation of this particular organism may make a very great difference in the results obtained with any given group of cases.

This evidence is not presented as having any particular significance with respect to the possible etiological relation of Pfeiffer's influenza bacillus to epidemic influenza, a question which is still undecided.

News of M. C. Officers.

Capt. Charles M. Edwards, Richmond, has been transferred for duty, from U. S. A. General Hospital, Ft. Riley, Kan., where he was director of the department of physiotherapy, to U. S. A. Hospital No. 43, Hampton, Va.

Dr. O. F. Blankingship, who has been in the service for the past two years, has received his discharge and returned to his home in Richmond.

Dr. John E. Cannaday, who was stationed for sometime at Base Hospital, Camp Sherman, as chief of the Surgical Staff, with the rank of major, has received his discharge and resumed his practice in Charleston, W. Va.

Major W. E. Driver has recently received his discharge from service and returned to his home in Norfolk.

Dr. Thomas M. Vorbrinck, of the 1917 class, Medical College of Virginia, who was released from the army several months ago, has located in Norfolk at 4501 Myers Avenue.

Dr. B. A. Rice, Forest Depot, has received his discharge from the service and returned home.

Dr. Ernest T. Trice, who saw service in the Fifth Naval District and aboard the U. S. ship Frederick for eighteen months, recently received his discharge from the service. Prior to resuming his work in this city early in September, he visited clinics in Philadelphia.

Dr. Robert S. Fitzgerald, of this city, who was a captain in the medical corps of the army and was stationed at General Hospital No. 2, Baltimore, Md., has received his discharge and will resume his practice in this city, with offices at 400 East Franklin Street. While in Baltimore, he attended clinics at Johns Hopkins University.

Dr. A. G. Franklin, of this city, who is stationed at the U. S. Tuberculosis Hospital at Otisville, N. Y., has been promoted to the rank of major.

Dr. Julian M. Cabell, who served abroad at the head of Base Hospital No. 41, known as the University of Virginia unit, nnown as awarded the medal of the Chevalier of the Legion of Honor which was bestowed by France. Previous to this, Gen. Pershing presented Colonel Cabell with a citation for exceptionally meritorious and conspicuous services while with Base Hospital No. 41.

Dr. H. A. Brady, the first physician of Danville, Va., to join the colors when war was declared, and who saw service in France, has returned to Danville on a visit. After a short stay there he plans making his home in Richmond.

Drs. Armentrout and Hankins.

Drs. J. F. Armentrout, Roanoke, Va., and J. L. Hankins, formerly of Fordwick, Va., have formed an association for continuing the conduct of the X-ray laboratories established by and for the past several years successfully conducted by Dr. Armentrout in MacBain Building, Roanoke, Va. Additional equipment of the most approved type has been installed and every facility employed to render accurate diagnostic data, X-ray therapy being a special feature.

Dr. Hankins has been recently discharged from the army after having served seven months of his time as roentgenologist in U. S. A. Embarkation Hospital No. 4, New York city. In this capacity, Dr. Hankins had the unusual experience of seeing a vast number of cases covering a wide range of conditions.

Dr. and Mrs. Fred A. Stoutamire,

Of Broadway, Va., have recently been visiting relatives in this city.

The Medical College of Virginia,

Richmond, commenced upon its eighty-first session on the 17th of this month. In addition to the faculty previously announced, the following new instructors have been added to the school of medicine: Drs. H. Wallace Blanton, E. C. Eggleston, T. B. Henderson, and David R. Murchison. In the list of assistants are Drs. Basil B. Jones, John Blair Fitts, C. A. Folkes, C. I. Cease, and J. L. Tabb.

"College Hall," the new dormitory for students of the College, is located at Tenth and Marshall Streets and will be able to accommodate 150 students. A cafeteria in the basement will solve the food problem for the young men who live at "College Hall."

Dr. H. A. Burke Assistant Surgeon, S. A. L.

Official announcement has been made of the appointment of Dr. H. Anlick Burke as assistant chief surgeon of the Seaboard Air Line railway, with headquarters at Petersburg, Va. He is a son of Dr. Joseph M. Burke, chief surgeon of this road.

The Richmond Meeting.

The Entertainment Committee of the Richmond Academy of Medicine and Surgery, has perfected plans for the approaching meeting of the State Society which should add much to pleasure of the members and their wives.

Tuesday, October 28th, will be the opening night and public meeting, and will include the address of welcome by the mayor of the city and the president's address.

Wednesday night, the 29th, there will be a "smoker" and vaudeville at the Westmoreland Club for the men, and the ladies will be given a theatre party or reception at the Woman's Club.

Thursday night, the 30th, there will be a reception and dance at the Jefferson Hotel.

The scientific program will include papers from such well known men as Dr. Henry A. Christian, professor of medicine at Harvard University; Col. Geo. C. Johnston, head of the X-ray department of the U. S. A., and others.

It is hoped that the members will make every possible effort to be present at this, the fiftieth anniversary meeting of the Society.

Dr. T. W. Murrell, chairman of the publicity committee, will see to it that you don't forget the date, and if you don't want your wives to accompany you, you had better not let them see his letters.

PAUL W. HOWLE, *Chairman.*

Dr. Garland H. Carter

And children, of Boydton, Va., paid a short visit to Richmond, early this month.

Lynchburg Has City Clinic for Venereal Diseases.

On July 1, the new city clinic of venereal diseases became operative in Lynchburg, Va., under the direct care of Dr. S. H. Rosenthal. All cases applying are diagnosed and treated free. By law, venereal diseases are required to be reported.

Married—

Dr. Howson Wallace Blanton, of this city, and Miss Alice Janet Wicker, Lockport, N. Y., September 2.

Dr. James Woods Price, Saranac Lake, N. Y., and Miss Sophie Mary Hoener, Montreal, Canada, September 3. Dr. Price is widely connected in this State, his home having formerly been at Ivy, Va. He was a graduate of the '01 class of the Medical Department of the University of Virginia.

Dr. A. G. Brown

And family, of this city, are home again, after a pleasant stay at Woodberry Forest, Va.

The Southside Virginia Medical Association

Held its sixty-fourth quarterly session in Franklin on September 9th, with about thirty-five doctors in attendance. An unusually good program was rendered at both the afternoon and night sessions. Officers presiding were Dr. W. T. McLemore as president *pro tem* and Dr. R. L. Raiford, secretary. At the close of the afternoon session the association was tendered a splendid supper by the Southampton County Medical Society. The meeting adjourned to meet the second Tuesday in December in Victoria.

Dr. and Mrs. William S. Gordon

Have returned to their home in this city, after spending the late summer season at Nimrod Hall, this State.

Influenza in Illinois.

The State Department of Health of Illinois reports that influenza in very mild form, without fatalities or serious complications, was unduly prevalent during the first half of July in certain localities, chiefly in the central part of the State. The cases were not generally reported, having been diagnosed as "summer cold," but investigation by State officers justifies the diagnosis of influenza. The largest group of cases was in Peoria, where it is estimated that 1,200 or more cases occurred. Only small groups of cases are reported from other localities.

The Alexandria County (Va.) Medical Association,

At a recent meeting, elected Dr. Edward McCarthy, of Cherrydale, president, and Dr. B. H. Swain, of Ballston, secretary, for the ensuing year.

Dr. W. A. Shepherd

Has returned to his home in this city after a camping trip spent with his family in the mountains of Virginia.

Mr. W. F. Rudd,

Of the Department of Chemistry of the Medical College of Virginia, was elected president of the American Conference of Pharmaceutical Faculties, at the annual meeting held in New York the latter part of August. This organization has the same relation to pharmacentical education as has the Association of American Medical Colleges to medical education.

The American Public Health Association

Is to hold its next annual meeting in New Orleans, La., October 27-30, inclusive. Southern health problems will be the central themes of discussion and a special effort has been made to arrange the program to meet the practical needs of health officers. Winter railroad rates to New Orleans will be in effect from all points after October 1.

Department of Health for Canada.

The movement, which has been active for some years, for the establishment of a department of health in Canada, recently culminated in its introduction into the House of Commons and the final passage of a bill creating a Federal Department of Health for the Dominion. The bill provides for the establishment of a department of health, for a minister of health, a deputy minister and an advisory council. The duties and powers of the minister extend to and include all matters and questions relating to the promotion or preservation of the health of the people of Canada over which the parliament of Canada has jurisdiction.

Dr. and Mrs. Charles Blanton,

Richmond, have returned from a visit to Lockport, N. Y., where they went to attend the marriage of their son.

Miss McLeod Attends Hospital Association.

Miss Josephine McLeod, superintendent of Johnston-Willis Sanatorium, this city, was appointed by Governor Davis as a delegate from Virginia to the American Hospital Association which met in Cincinnati, this month.

Dr. J. A. Arbuckle,

Formerly of Elkins, W. Va., has located in Charleston, W. Va., where he will limit his practice to diseases of the eye, ear, nose and throat.

Dr. McG. Anders

Has moved from Gastonia, N. C., to Boone, N. C.

Dr. and Mrs. Finley Gayle,

Whose marriage recently took place in Raleigh, N. C., have returned to this city and are located at the Marion Court apartments.

Dr. and Mrs. William J. Newbill

Celebrated their golden wedding anniversary at the home in Irvington, Va., early this month.

The Association of Surgeons of the Southern Railway,

At their annual meeting in New Orleans, this summer, elected Dr. Harry T. Inge, of Mobile, Ala., president.

Lynchburg to Have Another Hospital.

The former residence of Charles Heald, of Lynchburg, Va., has been sold to Dr. Don Preston Peters, of Baltimore, Md., and it is announced that Dr. Peters will have it converted into a hospital.

Dr. Carrington Better.

We are glad to announce that Dr. Charles V. Carrington, of this city, who has been quite ill and in a hospital, is now much improved and able to be at home again.

Dr. Herbert M. Vann,

Who graduated from Jefferson Medical College in 1917 and was only recently discharged from military service after being detailed with the medical corps in France, has been elected to the chair of anatomy in the Wake Forest, N. C. School, College of Medicine. He is a son of Dr. and Mrs. L. L. Vann, of Danville, Va.

Dr. Paul W. Howle

And family have returned to their home in this city after an extended stay at Mountain Lake, Va.

Dr. William Meredith,

Of Gouldin, Va., has been appointed a member of the school board of the district in which he lives in Hanover County, Va.

Dr. and Mrs. W. B. Barham,

Newsoms, Va., went to Big Stone Gap, Va., the first of this month, where it is announced they will make their home with their daughter.

Sir William Osler Honored.

In celebration of his seventieth birthday, Sir William Osler, regius professor of medicine in the University of Oxford, England, was recently presented at the Royal Society of Medicine with two large octavo volumes of essays, contributed to by more than 150 writers—his pupils, colleagues and friends in the British empire and America. These essays cover a wide field, including medical history, education and research, as well as pathology and therapeutics.

Danville Health Department Issues Pamphlet.

The Danville, Va., Health Department is issuing quarterly a pamphlet called "Better Health" which deals with the various health problems which confront health officers. Dr. R. W. Garnett, health officer of that city, and his able corps of assistants, deserve much credit for the good work they are accomplishing in Danville.

Dr. David R. Murchison,

Who recently located in this city, has moved his offices to the Franklin Building, 301 East Franklin Street. He is limiting his practice to internal medicine.

Dr. Joseph T. McKinney,

Formerly of this city, announces his return from the American Expeditionary Forces and the opening of his X-ray laboratory in MacBain Building, Roanoke, Va.

Dr. H. Page Mauck,

Recently discharged from army service, announces the opening of his offices in the Professional Building, this city. His practise will be limited to orthopedic surgery.

Colored People of Danville to Have Hospital.

The colored people of Danville, Va., conducted a campaign last month, to raise money for the purpose of buying some property to be converted into a hospital for their race. A nice nucleus was raised for this fund.

Dr. W. H. Higgins

And family have returned to their home in this city after a visit to Virginia Beach.

Campaign to Raise Money for T. B. Sanatorium.

Danville, Va., had a campaign the first part of this month to raise $60,000 to defray the expenses of the new tuberculosis sanatorium which is to be erected on ground donated sometime ago by R. L. Dibrell, of that place. The site is several miles from the city on the Yanceyville Road, and it is proposed to build on this ground a number of bungalows.

Dr. and Mrs. A. Murat Willis

And small son have returned to their home in this city after an extended stay in the mountains of Virginia.

Dr. J. Allison Hodges,

After a visit to western North Carolina, has returned to his home in this city.

Dr. A. L. Wellford

Has returned to his home in this city after a brief visit to St. Paul and Minneapolis.

Dr. and Mrs. Henry R. Carter

And son, of Ashland, Va., have returned home after a trip to New York and Atlantic City.

Dr. and Mrs. Oscar L. Powell

Have returned to their home in Onancock, Va., after a visit to New York.

T. B. Hospital Not Menace to Health of Community.

In a suit to enjoin the city of New Orleans from establishing and maintaining a tuberculosis hospital in the city, one of the objections of the plaintiffs living in the vicinity of the proposed site was that the hospital would endanger their health. The Supreme Court of Louisiana did not take this view, stating that "a well-kept tuberculosis hospital is not a menace to the health of the people living in its vicinity; and the presumption is that this hospital will be well kept."

Dr. and Mrs. Stuart McGuire

Have returned from Canada and are at their country home on James River, just outside of this city.

Dr. G. Chambers Woodson

Has recently moved into his new home at 3208 East Broad Street, this city.

Dr. C. Mason Smith

Was re-elected city health officer of Fredericksburg, Va., at the annual meeting of the Council recently held in that city.

One Auto to Every Eighteen People in U. S.

To get an inkling of the part the automobile plays in the business and social life of a country, it is only necessary to note the number of cars in proportion to the total population of the various countries. The United States has one automobile to every eighteen persons; Great Britain, one to every 225 persons; France, one to every 400 people; Italy and Belgium, one to every 840 people.

Obituary Record.

Dr. Junius Ernest Warrinner.

The many friends of Dr. Warinner will regret to learn of his death August 29. Though a native of Charles City County, this State, in which county he was born nearly fifty-nine years ago, he had for many years made his home just outside of Richmond, and was one of the most prominent doctors in this section. After completing his education at the A. & M. College, Blacksburg, he studied medicine at the Medical College of Virginia, from which he graduated in 1884. He was prominently identified with the medical organizations of this State and was for many years a member of the Medical Examining Board of Virginia. He was modest and retiring in manner, but a loyal friend and beloved by all who knew him. His wife and several children survive him.

Dr. William Lee Dalby,

Of Bridgetown, Va., a widely-known and popular physician, died at his home August 14th after a long and tedious illness of more than two years' duration with Bright's disease. Dr. Dalby was in his fiftieth year and was a graduate of the 1891 class of the Medical College of Virginia, Richmond.

Born in Northampton County, he spent his life at his old family homestead in the active practice of his profession, loved and respected by all with whom he came in contact. His career of usefulness was not confined to the single line of medical practice. He was a broad-minded, public-spirited citizen, interested in all that pertained to the uplift and progress of his county and State. He was the last representative of a large and prominent family. His widow, Mrs. Mary Wilkins Dalby, survives him.

Resolutions on the Death of Dr. Dalby.

Whereas, in the providence of the Almighty, we are called upon to mourn the untimely death of our colleague and fellow member of The Northampton County Medical Society, Dr. William Lee Dalby, we take this occasion to express our appreciation of his high character, mental attainments and eminent qualities as a physician.

He was graduated from the Medical College of Virginia in 1891 and was a member of the county and state medical societies. He was an active worker for good roads and was secretary of the good roads commission of this county.

We have learned with profound regret of his death, and be it Resolved: That these resolutions be spread on the minutes of The Northampton County Medical Society, that a copy be sent to the bereaved family, and that they be published in the Eastern Shore Herald and the *Virginia Medical Monthly.*

G. Fred Floyd,
J. M. Lynch,
Committee.

Dr. David Mott Robertson

Died from heart disease at his home at Spout Spring, Va., August 17, at the age of 61. He was a graduate from the New York University, Medical College, in 1881. Dr. Robertson was prominent in the politics of his county, having formerly represented it in the State legislature and having been at one time treasurer of the county. He was also a member of the Medical Society of Virginia.

Dr. Charles Toomer Parrish,

A prominent physician of Portsmouth, Va., died at his home in that city, August 6, after having been in bad health for several months. He was fifty-two years of age and was graduated from the College of Physicians and Surgeons, New York City, in 1890. Dr. Parrish was identified with a number of medical associations. His wife and several children survive him.

Dr. Wilton R. Stuart,

Of White Post, Va., died July 24, at the age of 64 years. He studied medicine at the College of Physicians and Surgeons, Baltimore, from which he graduated in 1880.

Dr. Triplett Estes Lowry

Died August 14, at his home at Goodes, Va., at the age of 82 years. He had been in bad health for a number of years. Dr. Lowry graduated in medicine from the University of Pennsylvania in 1857. During the War between the States, he served first in the infantry and was later detailed to a hospital in Lynchburg, Va., in which place he served to the end of the war.

Dr. J. A. Dickey

Died at his home in Bristol, Va.-Tenn., September 4, following a stroke of paralysis, aged sixty-nine years. He was formerly mayor of Bristol, Tenn., for fourteen years. He was graduated in medicine from the National University of Arts and Sciences, St. Louis, in 1889. His wife and three children survive him.

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Original Communications.

SPINAL PUNCTURE IN SURGERY OF THE BRAIN.

By C. C. COLEMAN, M. D., F. A. C. S., Richmond, Va.

Spinal or lumbar puncture has become in recent years almost a routine procedure in the investigation of patients presenting symptoms of disease of the nervous system. Perhaps no other single factor has contributed more to the awakening of interest in neurological problems than the ease with which spinal fluid for serological study may be removed at lumbar puncture. In view of the fact that this simple and usually innocuous operation has such a wide range of usefulness both in diagnosis and treatment, when properly safeguarded, it seems well to review the importance of observing necessary precautions to avoid serious and even fatal complications in certain affections of the brain.

We must differentiate between simple spinal puncture and spinal puncture with the release of the spinal fluid. Obviously there should be no complications of a simple spinal puncture without fluid removal provided an aseptic technic is observed. Inasmuch as the puncture is generally done for the purpose of withdrawing spinal fluid, whatever dangers there may be incident to this procedure would result from the disturbance of the cerebrospinal fluid pressure which is increased in all surgical diseases of the brain. It is, therefore, of importance that the withdrawal of spinal fluid be preceded by competent examination to determine whether the removal of this fluid and the resulting temporary disturbance of the pathological pressure conditions, if they exist, are likely to bring about serious complications. It has repeatedly happened that the failure to recognize the presence of intracranial tension, especially that arising from a tumor or trauma below the tentorium, has been followed by serious and even fatal consequences as a direct result of tapping the spinal canal. If spinal puncture is done upon patients having lesions of this type it should be most carefully performed, in full knowledge of the symptoms and dangers which may follow the procedure and of the means of minimizing the risk should the patient be threatened with circulatory or respiratory failure.

The indications for spinal puncture in surgical diseases of the brain, if we except certain types of meningitis which is being regarded more and more as a cerebral condition frequently requiring surgery, rest upon the importance of estimating with accuracy the degree of intracranial tension, the origin of this tension, and the relief of the tension when it is excessive. In recent head injuries the indications for spinal puncture are frequently imperative, primarily for the purpose of determining the tension which may have resulted from hemorrhage or edema. A secondary but nevertheless important consideration in performing spinal puncture upon patients who have received a head injury is to determine whether or not blood has been poured out in the cerebrospinal spaces. Naturally, many of the most serious types of head injuries would not show bloody spinal fluid and this is particularly true of extra-dural hemorrhage cases, but in fractures of the base of the skull, with associated edema and intracranial tension, the presence of blood in the spinal fluid not only gives indication of the severity of the lesion but determines to some extent the necessity for prompt relief of dangerous tension by subtemporal decompression.

It is unnecessary to add that all cases of brain trauma, except those in which the severity of the condition is manifested by bodywide disturbance indicating the necessity for immediate intervention, should be carefully studied by every neurological means at our command. Examination of the ocular fundi should be routinely done. In certain mild

borderline cases of brain injury without depressed fracture or clot and in which the pressure manifestations are not threatening, repeated spinal punctures give prompt and permanent relief. In a patient seriously shocked by a head injury with extravasation of blood from a torn sinus or large vein and whose condition obviously is unfit for major surgical operation, the repeated withdrawal of spinal fluid may be the most effective treatment. In cerebral hernia resulting from trauma, daily relief of the brain tension by spinal puncture is practically a specific provided there is no progressive intracranial pathology. The withdrawal of the spinal fluid is promptly followed by recession of the hernia, unless the hernia is a part of an abscess which is incarcerated in the bony opening. In these cases of latent abscess with brain protrusion, spinal puncture is an important aid in differentiating between simple and complicated herniae of the brain.

The treatment of hydrocephalus by spinal puncture while formerly used to a considerable extent has not given encouraging results although the enlargement of the head in a small number of cases has been permanently arrested during the period of repeated spinal punctures. Spinal puncture is often necessary, however, to diagnose the type of hydrocephalus and has been advocated by some as a routine. By the injection of neutral phenophthalein into the spinal canal, combined, in some cases with injection of the dye into the lateral ventricle, the nature and location of the obstruction to the flow of cerebrospinal fluid into blood stream can be determined. If the hydrocephalus is suspected as being of the internal obstructive variety a spinal puncture should be done with the greatest care not only in reference to the ordinary technic which is more or less standardized but with due regard to the respiratory embarrassment which may result from the removal of the column of spinal fluid which supports the medulla.

The numerous neurological phenomena which often cloud the picture of brain tumors can be understood and accurately estimated in many patients only by spinal puncture and examination of the fluid. In supratentorial tumors the risk of puncture is by no means great because even with the removal of the supporting fluid from below the tentorium protects the medulla and vital centers from compression through herniation of the brain stem into the foramen. Spinal puncture of patients with brain tumor, particularly when the tumor has recently been the site of a hemorrhage, will often show a yellow fluid (xanthochromia). Changes in the color of the spinal fluid are always an evidence of a pathological condition somewhere in the central nervous system.

It is often necessary to differentiate syphilis from brain tumor but it is much safer for the patient with the high tension of a subtentorial tumor to have the diagnosis made by general neurological methods.

This can usually be done but, if lumbar puncture should be necessary, the complications and dangers should always be borne in mind and the risk minimized by proper positions of the patient during the fluid release.

Spinal puncture finds one of its chief indications in the diagnosis and treatment of meningitis. In the epidemic type the early withdrawal of spinal fluid followed by an injection of an appropriate amount of specific serum is the most effective treatment known. In the traumatic type of meningitis repeated spinal puncture seems to be the best means of relieving the intracranial tension which, as a factor in the causation of death, may be coequal with or predominate over the element of infection. Any reference to the subject of spinal puncture in its relation to meningitis should take into consideration the recent experiments of Weed and Wegeforth. These workers, whose contribution covers both the experimental and clinical field, have demonstrated that in septicemia caused by an organism of potential virulence within the meninges, the relief of cerebrospinal fluid pressure by withdrawing considerable quantities of spinal fluid is very likely to precipitate the localization of the infecting organism into meningeal spaces and cause a meningitis. By most elaborate and skillfully conducted experiments it was shown that the injection of many times the number of the virulent organism in the circulation of the control animals rarely produces infection of the meninges, while the same type of organism in small numbers if injected into the circulation of an animal subjected to a spinal puncture almost invariably produces meningitis. The conclusions of Wegeforth are that should a blood culture

show septicemia, spinal puncture should not be done unless the patient already has meningitis and if, as often happens, it is impossible to determine whether the meninges are affected and spinal puncture becomes essential to make the diagnosis, only the smallest quantity of the fluid should be withdrawn through a very fine needle so that the postpuncture leakage would be negligible. These observations are of the greatest value because in epidemics of cerebrospinal meningitis a patient who may have a blood infection and who shows toxic irritation of the meninges but is actually free from meningitis is exceedingly liable to spinal puncture for the purpose of making an early diagnosis and beginning the specific treatment which is so important. In the treatment of meningitis by serum it has repeatedly happened that during the injection the patient collapsed. The problem presented is probably one of medullary compression due either to the withdrawal of too much fluid or the too rapid injection of the serum. This phase of the diagnosis and treatment of meningitis by spinal puncture is of great concern to public health officials and others engaged in community health work.

Technic and Precautions.

The technic of performing spinal puncture on the patient without high brain pressure needs no special discussion. Some operators prefer the sitting position for the patient, while others routinely use the horizontal lateral position with exaggerated forward flexion of the spine. Frasier's preference for the latter position seems to be sound and if routinely followed would do much to prevent untoward effects in addition to furnishing uniform statistics as to the normal spinal fluid pressure. As long as the position of the patient varies during spinal puncture just so long will reliable data be inaccessible. The third or fourth lumbar interspace is usually selected for obvious reasons. The needle should preferably be small and of platinum. The breaking of a needle in the spinal canal has been reported a number of times and can be prevented only by the use of the proper needle and absolute quiet on the part of the patient. I have on two occasions been consulted about the presence of a broken needle in the lumbar spinal column as the result of puncture. The patient should be kept in bed 24 hours and longer with the head lowered if the headache is troublesome, but the latter is greatly liminished, if not entirely prevented, by keeping the patient flat both during and for some time after the puncture. If considerable cerebral tension is suspected, puncture should be done with the patient's head and shoulders lowered; and if the lesion be located in the posterior fossa and accompanied by evidences of very high tension, spinal puncture is then a procedure fraught with grave danger and should not be attempted. In a patient with cerebellar tumor, a severe disturbance of respiration followed the removal of 2 c.c. of fluid but, fortunately, the disturbance was transient.

As soon as the needle is inserted the spinal fluid pressure should be estimated by a mercury manometer. The manometer should be used invariably. Estimation of the spinal fluid pressure by counting the number of drops escaping in a given time is, to say the least, crude. In cases of high tension estimated by a manometer, only the smallest quantity of fluid necessary for cytological study should be removed and the fluid should be allowed to escape a few drops at a time. Generally, there will be some leakage of the fluid from the spinal meninges into the tissues after the needle is withdrawn and this may be responsible for protracted headache. Should the patient develop occipital pain or show signs of embarrassment of the pulse and respiration, the procedure should immediately be stopped and, if necessary, artificial respiration started at once. It would seem logical in these cases to inject Ringer's solution to replace the withdrawn fluid, but the practical benefit of this procedure is doubtful because of the leaking puncture hole in the spinal dura. In severe cases of medullary compression resulting from the removal of spinal fluid and due to jamming down of the medulla, aspiration of the lateral ventricle should be promptly done.

Puncture of the spinal canal will be accompanied by very little pain if due regard is had for the technic and equipment. Local anesthesia may be used for the skin and subcutaneous tissue and the interarcual spaces should be clearly visualized to prevent scraping against the sensitive periosteum of the vertebrae.

In conclusion, spinal puncture is a precise method of investigating disease of the nervous

system when combined with competent neurological study. It offers an excellent method of treatment of many cerebral injuries and infections. In certain pathologic states of the brain, its employment is undoubtedly attended with considerable risk which can be minimized or eliminated only by intelligent study of the patient and a careful technic. While the procedure is of greatest value as a diagnostic and therapeutic aid it should not be done indiscriminately and without the proper safeguards.

Professional Building.

OBSTETRIC ABNORMALTIES WITH REPORT OF CASES*

By C. J. ANDREWS, M. D., F. A. C. S., Norfolk, Va.

The cases reported in this paper have not been selected on account of their unusual character, or infrequent occurrence. They are such as are occurring, or may occur, at any time in the practice of any one who attends obstetric cases. They are rather intended as illustrations of these various types or as texts for their further consideration.

Case 1.—*Eclampsia.* Patient admitted to St. Vincent's Hospital clinic 8:00 A. M. No history except that she was seen by Dr. J. W. Reed, at Ocean View, about two hours before, and sent by him to the hospital. He found her having convulsions and was told by her family that the first convulsion had occurred about 4:00 A. M., or about four hours before admission. Examination showed colored woman, apparently 19 years old, rather stout, tissues edematous. The long bones presented evidence of previous rickets. Patient entirely unconscious and comatose. Blood pressure 180. Another convulsion occurred during examination. She was apparently at full term. Position of fetus L. O. A. Presentation vertex. Heart sounds left below 140. Measurements 20, 26, 18, 10½ C. M. Cervix long and not dilated. Bladder contained 20 oz. urine which showed albumen 4 plus but no casts. Diagnosis:—Eclampsia with slightly contracted pelvis. Morphine was given to control convulsions, while preparing for operation, and an 8 pound baby was delivered by Caesarean section. The stomach was washed out with bicarbonate soda solution and castor oil, 3 ounces given through stomach tube; glucose solution by bowel continuously. The patient recovered consciousness after about 24 hours and both mother and child made an uneventful recovery.

Case 2.—*Threatened eclampsia—induction of labor.* Patient aged 19; primipara; 8 months pregnant. This patient called to engage me to attend her in labor. She assured me that she was perfectly well except for slight shortness of breath. Examination showed blood pressure 180; a mild degree of general edema; she was sent to the hospital, placed in bed, given purgatives, milk diet and diuretics. Urine (amount 16 ounces) showed albumen 2 plus. The condition did not improve and induction of labor was decided on. A dilating bag was introduced and labor began about eight hours afterward. Delivery was completed by low forceps. The baby weighed about 5 pounds and is living in good health now at about one year of age. The mother's temperature rose within a few hours after delivery to about 105 and the patient was practically comatose for about 24 hours. The following day the kidneys became more active, and enormous quantities of urine were voided. This patient also made a good recovery.

Case 3.—*Threatened eclampsia.* Multipara. Para 5. 7½ months pregnant. In one previous pregnancy this patient had showed albumen during the last month of pregnancy. On first examination this woman showed nothing abnormal except blood pressure 160 and a breach presentation. Urine, 30 ounces, specific gravity 1018. This patient did well for a time under rest, milk diet and diuretics, and then blood pressure began to rise again, restlessness, nausea and headache also appeared, and urine began to show albumen. I was called to her about 10:00 P. M. and found her suffering with violent epigastric pains and vomiting, blood pressure 180. I gave her morphine ¼, veronal gr. 7, and intended to induce labor the next morning. I was called early next morning and told that she had slept all night and awoke with labor pains. She was delivered spontaneously about two hours later. The baby weighed 5¼ pounds. The recovery of both was satisfactory.

Case 4.—*Threatened eclampsia—induction of labor.* Primipara, aged 22, eight months

*Read before Norfolk County Medical Society, July, 1919.

pregnant, applied for treatment on account of shortness of breath, and stated that she felt perfectly well otherwise. She showed general edema, blood pressure 170, urine large amount of albumen. She was sent at once to the hospital and placed on the usual treatment. The urine passed in first 24 hours was 16 ounces and showed albumen + +. A hot bath was given and patient put to bed with a dry pack, which caused profuse diaphoresis. This was followed by a drop in blood pressure to 140. Condition also improved for a day or two, when blood pressure began to run up again. Castor oil 1½ ounces given at 7:00 A. M., followed by quinine, grs. 5, every hour after griping from castor oil began. Definite labor pains began about 1:00 P. M., and child was delivered about 6:00 P. M. The fetus in this case was dead and had probably died before the patient applied for treatment, as I was never able to find heart sounds.

Case 5.—Eclampsia. Multipara, aged 35; seen in consultation. Convulsions occurred several hours after labor was completed, patient remaining comatose after convulsions. Pulse weak, rapid and thready. Blood pressure 110. The attending physician told me there had been no rise in blood pressure at any time and that urine had been normal. Treatment used was morphine gr. ½, followed by stomach washing, and castor oil through stomach tube. This case was the type in which veratrum viride is not indicated but it was given against my advice, and the woman's condition became even more alarming, in fact she was almost pulseless, and required very active treatment by stimulants and other measures which are ordinarily used in shock. It is also the case in which hot packs are too depressing. Morphine was continued as often as necessary to control the convulsions. Recovery followed. No doubt the liver in this case suffered more than the kidneys.

Case 6.—Eclampsia. Primipara about 5½ months pregnant. When admitted, patient was comatose and had already had many convulsions, the first having occurred about six hours before; blood pressure 200; bladder catheterized and only two ounces urine obtained. This was highly colored, almost solid with albumen on boiling, and a microscope showed enormous numbers of casts. The cervix was two fingers dilated. Morphine gr. ½ was given at once; stomach was washed and castor oil introduced as in the other cases; phlebotomy was done and sufficient blood removed to bring the blood pressure to about 170. Bowels were immediately moved by enema and bowel irrigation started. Cervix and vagina packed tightly, then patient removed to bed. The fetus was delivered spontaneously a few hours later, but on the following day edema of the lungs appeared and death followed.

Case 7.—Face presentation. Patient first seen while in labor; primipara aged 22, full term. Labor began 2:00 P. M.; examined 6:30 P. M., when vaginal examination showed fetus mouth in center of birth canal about midway pelvis, chin to left anterior. This patient was delivered about an hour later, the only disadvantage being a rather considerable tear of perineum, also swelling and ecchymoses of lips of child.

Case 8.—Brow presentation. This patient began labor about 6:00 A. M. Abdominal examination showed heart sounds 122, left below. The small parts could be felt on same side. Dilatation two fingers, and anterior fontanel in middle of birth canal. The case was left to itself until fully dilated except for efforts to flex head by pressure, which failed. The case was now a frank brow with occiput to right and face to left. The patient was removed to hospital and anesthetized and an effort made to convert it into an occiput presentation. This effort failed. DeLee states that he has succeeded in four brow presentations and failed in one. As the membranes ruptured early it was decided to change it into a face; this brought the face to a mento-posterior position. This I succeeded in rotating with the forceps, but the delivery was most difficult and the tearing of the pelvic structures was extensive. Immediate repair of cervix, vagina and perineum was done and the result was excellent. This child is now 8 months old and there is still some rigidity of the neck muscles which causes it to carry the head back slightly. This explains to some extent the difficulty of reducing the cases, as any progress made by manipulation would be immediately overcome as soon as pressure was removed.

Case 9.—Central placenta praevia—Caesarean section. Patient aged 42. Para IV. Eclampsia in first labor, full term. November 6th, 1918, I was called to see this patient in consultation with Dr. Phillips. Slight labor pain began the night before, but had made no progress; about two hours before I arrived she had a rather brisk hemorrhage. Dr. Phillips examined her and found central placenta praevia. My examination convinced me that this diagnosis was correct. The hemorrhage had practically stopped. No presenting part was felt in the vagina only the placental mass. The presentation was found to be transverse with back below and head to the right. Cervix dilated one and a half fingers. No heart sounds could be found at this time, though later I believed that faint heart sounds were heard. The mother stated she had felt movements definitely the day before, but was not sure about it since. As the patient was not bleeding at this time, it was considered safe to remove her to the hospital. After giving this case some consideration it was decided to do Caesarean section. The other alternatives were dilatation sufficient to introduce hand and pull down a foot, and dilating bag. The case was not suitable for Braxton Hicks method on account of the position, as the feet were above the back. A rapid dilatation of the cervix in placenta praevia is always wrong and gives the surest chance of fatal hemorrhage. When the uterus was opened a dead child was delivered, death having probably taken place at the time of the first hemorrhage. The mother made a satisfactory recovery.

Case 10.—Prolonged pregnancy—acephalic monster. Labor expected March 9th—last period began June 2nd—movements October 25th—development of uterus had been consistent with the estimated time of delivery. Examination showed an enormously distended uterus and evidently a large quantity of liquor amnii. No head could be found in the pelvis or elsewhere. I then believed this due to the hydramnios. The patient was watched until April 15th, when castor oil and quinine were given without results. I then waited until April 20th and introduced a bag; labor began almost at once and after a few hours patient was in hard labor. Examination then showed cervix fully dilated and a presenting part which felt to the examining hand like a jagged rock firmly fixed in the pelvis. Ample time was given but no further progress was made, so patient was anesthethized and acephalic monster delivered by forceps. This was accomplished with considerable difficulty as there was not enough of the rudimentary head to get the forceps to hold it, and, in addition to this, the shoulders and body were tremendous.

The treatment of eclampsia itself is not so far very brilliant. It has been said that these cases are divided into three classes. One class will die no matter what treatment is given; one will recover with almost any treatment, and in the other class the result depends upon the treatment. But, whatever the shortcomings of the treatment of the disease itself may be, the prophylactic treatment is extremely satisfactory; it is rare indeed to see a case of eclampsia in a woman who has received even moderately careful supervision during pregnancy. Cases of toxemia or threatened eclampsia not infrequently occur, but many of these are controlled by rest in bed, diuretics, cathartics, milk diet, etc. The course of the blood pressure, the condition of the urine as to quantity, specific gravity and albumen, are most significant as to the progress. If progress is not satisfactory, labor can be easily induced. The relative merits of the radical and conservative treatment of eclampsia have been widely discussed, particularly during the past few years. It is an undeniable fact that Stroganoff had a maternal mortality of 6.5 per cent. in 369 cases by relying on morphine and chloral alone and making no attempt at delivering the child. Tweedy, of the Dublin Rotunda, reported a mortality of 8.11 per cent in 74 cases. He used forceps after full dilatation of cervix. McPherson, at the Lying-in Hospital, reported 33 cases: all recovered except two (8.6 per cent.). He gives morphine grs. ½ and repeats until respiration is 8 per minute. As soon as patient is under the influence of morphine, stomach is washed with bicarbonate of soda solution and castor oil is given through a tube. He did phlebotomy with blood pressure of 175 or over. He states that all went into labor within twelve hours after convulsions and most within three hours. Low forceps were used in a few cases.

Flint, reporting 154 cases of eclampsia, at

the Manhattan Maternity, states that 41 treated radically gave a maternal mortality of 29.2 and foetal mortality of 73.1; 33 treated conservatively resulted in a maternal mortality rate of 15.1 per cent. and foetal mortality of 33. Flint states that until two years ago he believed and taught that morphine in eclampsia was wrong, but has now been entirely convinced of its usefulness. He describes his treatment as follows: Patient is placed in a quiet, darkened room, morphine grs. ½ given by hypo and repeated in ¼ gr. doses, sufficiently often to control convulsions, or reduce respiration to 12 per minute. The stomach is washed with a soda bicarbonate solution, one dram to the pint, and magnesium sulphate, two ounces, introduced through the tube. Colon irrigations are started using 4 to 6 gallons 5 per cent. glucose solutions. Nitroglycerine, grs. 1-50, is given every hour for high blood pressure; phlebotomy is seldom done. If patient is not in labor, a bag is introduced after two hours. Patient is wrapped in warm dry blankets and electric light apparatus applied externally until gentle perspiration is produced. Water is given freely by mouth if patient can swallow. This is practically what is meant by the conservative treatment today. So far as statistics are concerned, this method seems to have the advantage. Of course we will not always select it. The so-called rapid dilatation and immediate delivery has so far been the most fatal for both mother and child.

As to Caesarean section in eclampsia, many men of wide experience are opposed to it absolutely, but there are certainly some cases in which this seems to offer the best prospects, if medical treatment is decided on. Particularly this is true if there is any disproportion in size of fetus and pelvis, as in the case reported. One embarrassment often presents itself in deciding on Caesarean; this is vaginal examinations which have been made and possibly without due preparation. Probably one of the greatest advances in obstetric technique during the past ten years is rectal examinations as a routine instead of vaginal. If this were generally taught and practiced, it is reasonable to suppose that at least half of the thousands of women who either die or suffer disability from sepsis every year would escape. Really, when we first use this method, its advantages are so apparent and so satisfactory that we wonder why we have not always used it.

A few men, Bill and others, occasionally do Caesarean section in threatened eclampsia. The occasion for this must be very rare indeed, as induction of labor is much simpler.

Regarding case 10—prolonged pregnancy and acephalic monster: This case is of interest as a comparatively rare occurrence, once in 4,000 pregnancies; it also brings up the question of prolonged pregnancy. Williams says he has never seen any trouble from prolonged pregnancy. The longest pregnancy he has seen was 12 months and the child weighed 7½ pounds. This is not the experience of most observers. Reed, of Chicago, has been so much impressed with the disadvantage of prolonged pregnancies resulting in difficult labors that he regularly fixes the date of labor, gives castor oil and quinine and, if this is not successful, induces labor by bags. He has read several papers on this subject and been severely criticized, but continues to do it with great satisfaction to himself. So far we are not prepared to accept this as a rule of practice, but I am convinced by my own experience that pregnancy is sometimes unduly prolonged with considerable difficulty in labor as a result.

The most important question to be decided in considering induction of labor in this connection is the degree of maturity of the fetus. Certainly, if one is to depend on the history alone, serious mistakes will often be made. Thoms, of Yale, has recently described a method of estimating the degree of maturity which I am now using and am greatly impressed with its accuracy. It is based on the principle that the average mature fetus is 50 cm. long, and that the distance from pole to pole, as the fetus lies in the uterus, is half the true length of the child. The measurement is made with a pelvimeter, substracting the length of the examining finger placed against head of child and also estimated thickness of abdominal and uterine walls.

So far as I know there have been no published observations as to the length of the fetus when first reasonably viable. From my own observation I would say that if the fetus is 44 or more cm. there is no danger of immaturity.

Prolonged pregnancy seems to be very often associated with malposition, particularly transverse positions. The case reported had practically no head and therefore there was no pelvic pressure. Certainly, if one has observed the development of the uterus from time to time and made suitable measurements, it is possible to estimate with reasonable accuracy the time of maturity. If this date has been fixed, no objection can be made to induction of labor by the castor oil and quinine method. If this fail, we can await further developments. In any case with normal pelvic and fetal measurements and in which suitable diet has been given in the last few months, three weeks overdue would probably not make trouble, but more delay than this, I believe, is not to be allowed.

512 *Taylor Building.*

DROPSY IN CHILDREN DUE TO FAT STARVATION.

By A. B. GRUBB, M. D., Cripple Creek, Va.

There are certain digestive disturbances in children due to an excessive fat diet, and the mistake is often made by giving a fat-free article of diet over a long period of time with its resultant evils. It must be remembered that mother's milk is as rich in fats as cow's milk and also that most of the so-called infant foods on the market are low in fat if not fat-free.

The fat in mother's milk is more easily digested than any other fat, of course, and by all means the child should have its mother's milk during its first year of life, but after weaning it should be certain to have its fat.

Case 1.—Ten years ago I had a patient with an abscess within the lung tissue. This child had been weaned and was about fourteen months of age. Following the operation of resection of rib and drainage, the feeding problem for the child was hard to solve. Not knowing then the necessity of fats, the child was put on Imperial Granum, which is probably fat-free. Of course, following such a serious operation on a small child, there were many ups and downs, but after about sixty days he developed a general edema. He was given digitalis, sparteine, strychnine, etc., for the condition, but the edema grew worse and the child died. It looked then like an edema due to some heart weakness following an abscess of the lung, but I feel sure if the child could have had a wet nurse or as much fat in cow's milk as it could handle that it would have lived.

While I realize that a wet nurse is not often necessary with a child the age of this one (and I adhere to the rule that they should be weaned at one year), yet in this particular case, breast feeding would have been ideal.

Case 2.—This child was about two years of age and had some stomach trouble. Its mother took it to a physician who cautioned her particularly not to give it butter, cream or fats of any kind. She followed his instructions to the letter and kept it on a starch diet. After about two months, the child developed a general dropsy and the mother kept feeding it according to the earlier instructions. The child was swollen all over when she brought it to me. I put it on butter, fat meat and cream. In two weeks I saw the baby again and did not recognize it, the change had been so great. All the swelling had gone.

The two cases given are so typical that it would not be worth while to report others.

Since seeing these cases, some corroborative reports have come out of German prison camps. About four hundred cases among our allied prisoners were reported by one man. They were fed by the Germans a vegetable soup made mostly from turnips, cabbage and carrots. Their food was almost totally fat-free. In these cases edema began in the ankles, extended to the knees and very soon became general. The author of this statement gave the Germans credit for bringing in better food and especially one supplied with fats, when they saw their prisoners in extremis. The prisoners on good food as a rule soon became normal, but in twenty cases, food was not brought quickly enough and these prisoners died. Autopsy showed a flabby, pale, heart muscle, flabby bowels and lung, and edema of most of the tissues, but there were no signs of other trouble except starvation.

While the same care should be taken to see that our small patients get enough proteids as well as fat, yet it has been my lot to find more children starved on fats than proteids and to find that most of them are fed on a diet of too much carbohydrates.

ABDOMINAL HERNIA AND "RUPTURE."

(Standardization of Nomenclature.)

By G. PAUL LAROQUE, M. D., F. A. C. S., Richmond, Va.

Most authors favor the elimination of the term "rupture" from surgical nomenclature. In so far as the term applies to hernia at the inguinal, femoral and umbilical orifices, it is quite uniformly agreed that the word "rupture" should be eliminated. Is there not, however, some legitimate reason for retaining the term to designate those defects in the continuity of the abdominal wall remaining or subsequently occurring at the site of a laparotomy incision through which abdominal contents subsequently protrude?

The standard definition of true hernia, certainly as it applies to the inguinal, femoral and umbilical types of the disease, is now quite uniformly accepted as "a protrusion of a pouch or sac of parietal peritoneum." The essential structure, therefore, entering into the formation of true hernia is a sac of parietal peritoneum. Strictly speaking this is the only structure necessary to fulfil the definition of hernia. With this as a definition of the term, no explanation is required for the fact that a patient has hernia even though recumbent and the sac empty, though, of course, the sac may contain bowel, omentum and other abdominal contents when intra-abdominal pressure at these orifices is increased by erect posture, coughing, straining, etc.

Concerning the etiology of this type of hernia, the whole subject has been sufficiently clarified by extensive clinical and library research. True hernia is essentially congenital in origin and a hernial sac is as much a malformation as is the sac of meningocele (cerebral or spinal) or that of a branchial or coccygeal cyst. It is no accident and not caused by trauma. From observation of many thousands of herniae of these orifices, I have never seen one case in which there was any evidence at operation that such hernia was of traumatic origin. Moreover, while it seems reasonable to believe that coughing, straining, heavy lifting and other such efforts may possibly cause such herniae to become larger, yet I am quite willing to go on record with the belief that such factors are not truly *causative* of herniae.

Concerning incisional, ventral or, if one please, "traumatic hernia," we have a different state of affairs. In these there is no protrusion of the pouch of parietal peritoneum. Frequently when such "herniae" are of long standing, operation will reveal to superficial examination an appearance somewhat resembling peritoneum, though as a matter of fact, there is no true peritoneal sac as an essential part of the pathology of this type of hernia. There is a true solution of continuity or rupture of the abdominal wall, the hole extending through the abdominal wall from the peritoneal cavity completely or incompletely through to beneath the skin. This type of "hernia" follows operation for intra-abdominal conditions that necessitate drainage at the time of operation; or it develops at the site of wounds which, as a result of infection, have broken down; and in certain rare cases, there is separation of the edges of the peritoneum or fascia as a result of improper apposition or the breaking of sutures before the union has become firm. In other words, this type of "hernia" is truly a rupture of the abdominal wall. In cases requiring drainage the rupture exists at the site of the drainage tube or gauze when the patient leaves the table. In cases due to separation of structures, the rupture occurs while the patient is in convalescence, though the protrusion may not be visible to the patient or easily detectable to the examiner until some months later after tissue shrinkage has occurred. At least for the present, therefore, it seems not unjustifiable to retain the term "rupture" for so-called post-operative incisional hernia. This belief is further substantiated by the standard methods for the cure of this affection.

It is now uniformly agreed that the most essential part of the operation for the cure of hernia of the inguinal, femoral and umbilical orifices, consists in the complete removal of the sac by enucleation and firm closure of its neck by high ligation or suture. Though it is standard practice to close at least the inguinal canal and perhaps the femoral, and by overlapping to obliterate the umbilical orifice, yet it has been demonstrated that in certain small herniae a tight closure of the neck of the sac from the inside of the general peritoneal cavity (especially when preceded by inversion of the sac by means of forceps pulling

it up from the bottom), there will be no recurrence even though the canal is not closed. We would certainly, however, not trust solely to this without closure of the canal in herniae other than those of small size.

Concerning incisional rupture, however, the standard practice and the only way to avoid recurrence is to unite accurately the separate layers of the abdominal wall, the peritoneum and internal fascia generally in one layer, the muscles and external fascia in separate layers and to overlap these layers as much as possible. This, under perfect asepsis and hemostasis, provided the sutures are not made so tight as to strangulate the tissues, results in permanent cure. In contradistinction to the standard methods in dealing with true hernia with its sac of parietal peritoneum, no effort is made to remove the peritoneum and indeed all tissues capable of union should be preserved.

So then, the essential difference in the practice for the cure of true hernia and "rupture" is based upon the differences in the pathology of the two affections. Hernia is cured by excision and high ligation of the sac; rupture by accurate co-aptation most certainly secured by overlapping the various layers of the abdominal wall. With these differences in etiology, pathology and treatment, may we not retain both hernia and "rupture" in nomenclature and standardize their definitions?

603 *East Grace Street.*

THE TREATMENT OF HYSTERICALS IN RELATION TO AUTOMATISM.

By TOM A. WILLIAMS, M. D., Washington, D. C.

Patients suffering from psychogenetic functional troubles may be divided from a therapeutic aspect into two types of weighty practical import. They may be called the active, positive, hostile type, and the passive, negative, inert type. Obstinacy, however, is not a prerogative of the first type, for the inert patient may be exceedingly obstinate although not actively resistant.

The men of the first type are determined to retain their symptoms. They have found their disease a handy method of evading unpleasant duty and they actively do everything possible to avoid the measures needed for their cure. In some cases they resort to tricks and dodges to deceive the doctors and attendants; in others they bring an active opposition to bear upon their efforts; and in the worst cases they consciously simulate symptoms or even openly rebel in order to avoid the issue which they know will lead to the disappearance of their symptoms, in consequence of which they would have to return to the duty they desire at all costs to avoid.

The only way in which they can be cured is by effecting a psychological change in them —the old Biblical expression "to be born again" expresses the end to be aimed at. The morbid desire of the man to remain a patient must be substituted by a new desire, an aspiration towards the life of duty. There are two ways of effecting this: one is by making the hospital and treatment uncomfortable or unpleasant, so that the man, finding that he is out of the frying-pan into the fire, begins to change his view, and decides to try to get well. Even, however, when he reaches this stage it is not enough, for he is then only beginning what every pithiatic must go through, namely, the casting off of a morbid habit, whether it is the habit of a vicious attitude, or the habit of a non-use. It must not be forgotten that in some instances there are physical consequences of vicious attitudes and these have to be treated. Often the treatment of these is exceedingly disagreeable, quite apart from the good-will of the patient.

The commoner type of patient exerts no active opposition against the treatment, but he is a man ruled by his automatism and finds it very difficult, or even impossible, to himself make the effort necessary to break the acquired habit. Whether it is one of omission or of morbid commission makes no difference to the principle required for its re-education, for the patient has to be pushed by the doctor into doing that which he is unwilling to do for himself. Sometimes the motive required to arouse him is, as in the case of the first type, dread of the unpleasant. More frequently, however, the method of side-tracking and indirect suggestion is the most rapid and effective in these cases, for in this way the man falls quickly and scarcely knowingly, into another automatism which a skillful doctor takes care is the natural automatism he formerly had.

Influences against recovery are constantly

being exercised by these patients, not only by their concealed motives against a return to duty, but because of the hurtful insinuations on the part of comrades or relatives, or perhaps even, worst of all, on account of a conventional opinion that a neurotic soldier is incapable of further duty. For these reasons, the method of therapeutics which has as its principal weapon dislike of discomfort inevitably produces discontent and even rebellion, latent if not overt, and this leads eventually not only to many individual failures, but even to a breakdown of the organization, which relies upon this method as its sheet-anchor.

Accordingly, instead of the motive of repulsion being used, it is infinitely better to employ that of attraction; the former is a derivative of the fear-instinct, biologically in negative chemiotaxis; the latter, an integral element of the motive-power of existence.

In the process of the inculcation of motive, every teacher of the young has learned since Frobel, how vastly superior to the method of intimidation is the method of provoking interest. Indeed, even the method of repression is only of use as a means of breaking the chain of attention elsewhere than to the point desired, and it is only when the subject becomes actively interested in what is being done, that progress is made. So in patients in whom psychological traits are the root of their disorder, the dragooning method is only the first step. We are back to an old saying—"The fear of the Lord is the beginning of wisdom." Some people forget that it should not be made the end. Hence, in the case of a pithiatic, he cannot be considered as safely restored until an active motive of desire to return to duty is substituted for his motive of desire to avoid discomfort. In some cases this is merely a flabby acquiescence in a general atmosphere. Such men are always liable to mental contagion, and their future, as their past, is dependent upon their immediate environment. However, even in men of this kind, a course of training can endow them with an astonishing obstinacy in well-doing. Most *a propos* is the profound wisdom uttered by Jeremy Taylor when he saw the criminal led to the scaffold: "There, but for the grace of God, goes Jeremy Taylor." In the situation we are considering, the grace of God is represented by the activation derived by the patient from a skilfully devised environment. Those who have dealt with markedly hysterical cases know how faithful these patients become to a service which they may adopt. This is in virtue of their very defect, namely, the accentuation of their automatism, so that patients of poor judgment and who are highly suggestible may be moulded into very useful members of their group, provided they are not asked to step out of their regular groove. Even men who are intellectually quite low in type may be converted into valuable soldiers if this principle is utilized.

In persons of greater intellectual complexity, and particularly where the affectivity requires management, the appeal will have to be less simple, and the patient's own mental resources must be more largely employed. To do this, the physician must have a more extensive knowledge of the patient's personality than in the former cases. This is particularly true in the case of the actively resistant type of pithiatic. We have the right to believe that there is a key to everyone's heart, and it is the psycho-therapeutist's business to find it, and when he has found it, he should tax his ingenuity to open the door of an active and useful life to his patient. These men are worth saving, for the very qualities which enable them to actively resist will be of the greatest value to them as combatants. It is all a question of motive and desire. The eugenist who excited so much commotion in London at the International Conference, when he said that he would rather be the son of an efficient burglar than of an incompetent bishop, had this principle in mind. The finding of effective motives and the helping of the patient to utilize them, is the aim of the psycho-therapeutist, and his success in doing so is the measure of his utility to the army, and indeed to humanity.*

1621 *Connecticut Avenue.*

*These considerations all apply to civil hysteria and more especially to the traumatic neuroses. They are extensively developed in my forthcoming work, "Disorders of the Nervous System in Warfare."

Don't talk politics unless you can keep cool about it.

Don't run for cars; there will be another along after awhile.

SEMI-CENTENIAL MEETING, MEDICAL SOCIETY OF VIRGINIA.

Medical History of Richmond.

By JOHN N. UPSHUR, M. D., Richmond, Va..

Charter Member and Ex-President and Honorary Fellow.

There are some unique features in the coming meeting of the State Medical Society in Richmond in October. For the first time in its history the annual meeting to be held in Richmond in 1918 was prevented by the epidemic of influenza. The coming meeting will be the semi-centennial. The Richmond profession are always glad to welcome their brothers and extend to them the utmost hospitality.

Before the Civil War there was not any event of special note connected with the medical history of the city of Richmond. The profession in a town of thirty thousand or less was composed of not very many men, but they were men of marked ability, true types of the old family physician, and emphatically gentlemen. The names of the elder McCaw, John Cullen, Johnston, Petticolas, Haxhall, Dean, John Cunningham, were household words. When the Civil War between the States ended the city was impoverished and in ruins. The large negro population had been freed. The medical profession, as never before, had to enlarge their liberality for the sake of humanity and minister to the sick and suffering of all races and colors without any hope of reward, even though grim want was knocking at their own doors, and wife and children were forced to do without some of the necessities of life. The whole people were impoverished and despondent, but of necessity were forced to arouse themselves to make an effort to sustain life. One of the first acts of importance succeeding the war was the making by the profession of a new schedule of fees to make the charge for service a life-sustaining remuneration.

At the close of the war there were no hospitals in Richmond; all surgical work was done at the home of the patient. It mattered little, as surgical asepsis had not been born. The old germ-bearing sponge was used until it was worn out and instruments were fortunate if they got rinsed off in warm water.

The Freedman's Bureau, however, which looked after the welfare of the newly-freed wards of the nation, established a hospital at Howard's Grove (now the suburb of Fairmont) in some rough buildings which had been used by the Confederate Government as a hospital. The capacity was about 500 beds. The organization was under a government contract surgeon in charge, a hospital steward, a clerk, matron, sergeant and six soldiers, and the Medical College of Virginia was allowed the use of it for clinical purposes and to send a resident physician from the graduating class and four senior students, who did the work of looking after the patients. The writer served there for fourteen months as student and resident physician. The cases treated were conspicuous for the large number of cases of tuberculosis, covering the whole field as to variety, and the large number of cases of venereal diseases. During the incumbency of the writer 250 to 300 autopsies were made, and not more than five or six were free from evidence of tuberculosis, somewhere, and many times, when it had not been suspected before death.

Richmond was conspicuous for its lack of hospitals, having no private hospital, all charity cases being treated in the hospital of the city almshouse. Since then many hospitals, private and public, have been established and advanced up-to-date work is being done.

In 1861, indeed, until 1893, there was only one medical school, The Medical College of Virginia. This college was founded in the early forties as the Medical Department of Hampden-Sidney College, but in the early fifties a disagreement between the faculty and Board of Visitors resulted in the faculty applying to the legislature for an independent charter, which was granted, and it became a state institution under the title of the Medical College of Virginia, the State erecting a college building, and just before the war a hospital. A hospital for slaves had previously existed in the college building. In 1893 the University College of Medicine was organized. Prior to this time the attendance was small, but, gradually growing, there were larger classes each year, showing a progressive advance in methods and the subjects taught. With the organization of the University College of Medicine the stimulus of competition as to methods and attendance came and

keenest rivalry between the two schools, the resultant of which was a largely increased number of medical students in Richmond, making it one of the medical centers of the South, each school making a creditable record. In 1912 the two schools were consolidated and plans laid for the most advanced methods to be carried out in its curriculum. At the close of the session of 1914 negotiations were on foot for the further consolidation of a North Carolina school, which were completed later on. The school is registered by the National Council as "Class A."

The Richmond Academy of Medicine and Surgery is the local society, and embraces in its membership most of the members of the profession in Richmond and a number from the adjoining counties. Soon after the Civil War the Richmond Academy of Medicine was organized. About 1877 the Medical and Surgical Society was formed by the withdrawal of a number of members from the Academy. The reason assigned was that too much prominence was given to medical ethics to the detriment of scientific discussion. This society existed for a number of years, but both societies began to languish, when, through the efforts of Dr. Hugh M. Taylor, of the Medical and Surgical, and the writer, from the Academy of Medicine, the two were brought together and the present society organized.

Richmond is fully up to date in its health work and has made an enviable record in the prevention of contagious disease, and is now one of the healthiest cities in the Union.

Sturdy, honest and devoted was John A. Cunningham, the warm personal friend of Dr. Dean. No less honored, and his name a household word, he has left behind him the heritage of an upright and earnest life. Contemporaries of these were the polished and courtly Robert Haxhall, the venerable John Dove, the most distinguished Mason of his day in Virginia; the accomplished and skilled physician, James Beale, the quiet, dignified and big-hearted Albert Snead, withal, too, the humble-minded and devoted Christian; the modest and able and consecrated man, Orlando Fairfax, the brilliant and learned Levin S. Joynes, Grattan Cabell, Robert T. Coleman, J. S. Dorsey Cullen, Francis D. Cunningham; that noble old Roman, W. W. Parker, of broadest charity and most unselfish devotion to humanity, distinguished, too, as the dauntless commander, during the Civil War, of Parker's battery of artillery. He was the founder of the Magdalen Home. Drs. James B. McCaw and O. A. Crenshaw and a host of others might be mentioned did space permit—men of highest character and earnest endeavor in humanity's cause. And last but not least come two other names, Dr. Hunter McGuire, the most distinguished member of the profession of his day in the South. He came to Richmond as Professor of Surgery in the Medical College of Virginia in the prime of early manhood. Medical director of Stonewall Jackson's corps, ex-President of the American Medical Association, his State and local societies, ambitious, intelligent, aggressive, indefatigable, original and magnetic, with a wonderfully intuitive knowledge of human nature, he enlisted the confidence, loyalty and devotion of his patients rarely equalled and never excelled. He had the distinction of being the first surgeon in this country to ligate the abdominal aorta (see American Journal of the Medical Sciences, October, 1868). He was the founder of the University College of Medicine.

Dr. John G. Skelton, whom none could know and not love, in every sense of the word God's noblest creation, was a man spiritually, mentally, professionally, illustrating all the virtues which go to make up a lovely life: an honor to his profession, a skillful, painstaking and successful practitioner, after a well-spent life he fell asleep.

Such is an outline of Richmond's medical history. The Medical Society of Virginia is coming to Richmond. May its members learn to know and love those members of the profession who are actively at work today in this city in the cause of medical progress and for the help and betterment and prevention of the ills of humanity, may they be upbuilded and strengthened by the coming session of this association, more determined to lift higher and higher the standard of the profession above the plane of sordidness, selfishness and commercialism, realize its awful responsibilities, and

> Go, join head, heart and hand,
> Active and firm to fight the bloodless fight
> Of Science, Freedom and the Truth in Christ.

1103 W. *Franklin St.*

Proceedings of Societies, Etc.

THE SMYTH COUNTY MEDICAL SOCIETY

Held an interesting meeting at Marion, Va., on Thursday, September the 18th. About one-half of the membership were present and all took part in the proceedings. Four new members were elected:—Drs. W. J. Weindell and U. G. Jones, of Marion, and Drs. A. L. Jones and Fields, of Chilhowie. Dr. E. A. Holmes, Broadford, was elected President, and Dr. Chas. H. Baker, Secretary-Treasurer. Dr. Z. V. Sherrill was elected a delegate to the State Society and Dr. S. W. Dickinson, alternate.

This Society has a membership of seventeen, every graduate in medicine but one in Smyth County being a member, and this one would probably have been elected except for the fact that he has not yet completed his examination before the State Board of Examiners.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Reported by EMIL MAYER M. D., New York, N. Y.

(*Continued from page* 150.)

Report of a Case of Large Osteoma Involving the Right Frontal Sinus and Uncovering the Adjacent Brain.

By JOHN F. BARNHILL, M. D., Indianapolis.

This occurred in a girl of sixteen years who first noticed a swelling on her forehead a year previously, which caused no symptoms, but was increasing slowly in size. The speaker was consulted because of deformity.

X-ray plates showed an oval tumor involving the right frontal sinus, with absorption of the external and internal plates of the sinus walls.

Operation August 21, 1917. An area of half an inch in circumference was wanting in the frontal wall of the sinus, and through this the hard glistening tumor presented.

The remaining portion of the frontal wall was removed by rongeur and the tumor forcibly pried out by stout bone rasps. It was attached to and extended into the infundibulum. The dura was exposed and absorbed over a large area. Some softened bone about the margin of the dehiscence was rongeured away, a light sprinkle of iodoform powder applied to the exposed dura and brain. The infundibulum was enlarged by means of a bone rasp, a drain tube inserted, the cavity was lightly packed with sterile gauze and the external wound completely closed.

Recovery with but slight scar was entirely uneventful.

The tumor was an osteoma, weight a little more than six hundred grains, with great density.

DISCUSSION.

Dr. John M. Ingersoll, Cleveland: At the meeting last year I showed some radiographs of an osteoma of the frontal sinus in a boy fourteen years old, following a blow from a baseball. He has been under observation for three years. During the first year after the operation I was very hopeful, but the radiographs that I exhibited last year showed a recurrence and that the osteoma had grown back into the brain cavity so far that it was inoperable. The tumor grew originally from the infundibulum into the frontal sinus, just as it did in Dr. Barnhill's case. The general opinion is that the tendency of these growths to recur is very marked.

Dr. John E. Mackenty, New York City: In the service at the Manhattan Hospital, in another department, I was interested in an osteoma of the frontal bone. It involved the frontal sinus and extended back along the base of the brain, going through to the dura. The condition is pretty well recognized under the name of ivory osteoma of the frontal bone, and it is rather serious to operate on it. This man's was due to syphilis. He had evidence of syphilis at the time. I should like to ask Dr. Barnhill whether this girl's blood was examined for syphilis. The man subsequently died of meningitis. His tumor was not operable. The consensus of opinion is that when these tumors are very large, they are inoperable because the difficulty of getting them out entirely is so great.

Dr. John F. Barnhill, closing: She was an only child. There was no evidence of hereditary syphilis, and I looked on her as a perfectly well girl except for this ivory-hard tumor. I should be greatly amazed if this should turn out to be a sarcoma. I am well aware that sarcoma is more common in this region than anything like one. I should be greatly astonished if it returned. When I pried it off, it snapped from the infundibular attachments with a crack

such as would a piece of marble, and in sawing through it was so ivory like that it could be compared to a billiard ball. There was no suspicion on the part of anyone that it could be sarcoma, but I know the tricks of sarcoma so well that I would not say that it is impossible for it to have been one.

The Surgery of Larygeal Milignancy.

By HUBERT ARROWSMITH, M. D., Brooklyn.

From the author's observations of MacKenty's work and his own recent experience, modeled very closely thereon, he is inclined to tentatively suggest the adoptions of Moure's antecedent tracheotomy, to accustom the lower air passages to the direct impact of air, which may lessen their immediate postoperative irritability and susceptibility; the tracheal opening to be made high, as Jackson has indicated, because that will not interfere with the later mobilization of the trachea. Otherwise the two step operation seems to offer no special advantage. This is the ideal field for the employment of oil-ether colonic anesthesia, as devised by Gwathmey. It makes the whole procedure infinitely easier for both patient and operator. Even if really painless under local anesthesia, such an ordeal produces an enormous apprehension which cannot but be detrimental to the patient, and the degree of infiltration of the tissues necessary to produce insensitiveness must interfere with their repair. With rectal anesthesia laryngeal spasm does not occur, bleeding is very much less, there is no tracheobronchial irritation from the directly inspired anesthetic, which very largely obviates the necessity for subsequent repeated applications of the suction apparatus—in itself an agent of some danger—and there is much less likelihood of postoperative vomiting, most undesirable under these conditions.

The laryngologist for every possible reason is the man who should do laryngeal surgery, both external and internal. If he saw all these patients at an early date, thyrotomy would more often be performed.

Laryngectomy cannot be repudiated on any such grounds as the mutilation, or the loss of voice. Laryngectomized patients are in no worse case than the blind, the deaf or the helplessly cripplied. Many of them seem to get a fair amount of happiness out of the mere fact of existence, and are not by any means incapable of self support. In judiciously chosen cases this operation offers a good deal more than a probability of clinical cure, and in most instances a definite retardation of the fatal ending.

Of two cases operated by the writer, one died six weeks later of pneumonia. The other is in good condition, now six months after operation, and at work.

A third case in whom only a tracheotomy was done, his final sufferings were so great that the author regrets that he did not give the patient "a fighting chance by as farreaching a dissection as possible," rather than witness such sufferings as this man endured during the last six months of his life.

DISCUSSION.

Dr. John E. MacKenty, New York City: The main trouble is that the cases come to us too late for any hope of permanent cure. Of twenty-three cases seen by me since last September, seventeen were inoperable, except in the way of alleviation. Only one case of the twenty-three was incipient. Now, that is a terrible commentary on the present condition of the diagnosis of this disease. There is a fault somewhere, and, as Dr. Arrowsmith says, I think it is largely with the general practitioner, who does not take notice of the early symptoms. Anyone of cancer age complaining of hoarseness which lasts for more than six weeks should be under observation. There is no question that the mortality has decreased during the last few years. Up to seven or eight years ago it was very high. At the present day, those taking this work up have a different experience, and find the operative mortality much lower. I think that care in the technic will reduce the operative mortality to a very small fraction.

Partial laryngectomy is a seldom required operation. I have added no cases of this procedure to the former record. I have seen none requiring it. Besides, hemilaryngectomy is more dangerous as an operative procedure than total laryngectomy. I think that a lot depends on getting the cases over the surgical end of it, on the postoperative treatment, more than we realize; it is the neglect of the small details following operation that produces the mortality.

I am wedded to the one stage operation, but I am not prejudiced, I hope, and see some

reason now in the use of the high tracheotomy that does not in any way injure the trachea. I object to the other, because it injures the trachea.

I have been impressed by Dr. Arrowsmith's exhibition of colonic anesthesia. Having seen it used in this type of operation, I am going to give it a thorough trial. I believe that in colonic anesthesia we have made an advance in this work, because it lessens the amount of hemorrhage and of blood getting into the trachea, which I consider very important in guarding the patient against pneumonia.

Dr. Cornelius G. Coakley, New York City: It would seem to me that a one-stage operation is, in some cases, much to be preferred to a two stage operation. If the growth is small, and you can afford to wait for the adjustment of respiratory tract to the new method of breathing, all right; but if the case is likely to result in total laryngectomy the one stage operation is to be preferred.

Dr. Robert Clyde Lynch. New Orleans: I have now six cases of intrinsic carcinoma of the larynx that I have operated on under suspension. Four of these patients are perfectly well at the present time. In the remotest case, it has been four years since the time of operation; in the most recent, about eight months. So far, there has been no recurrence, but I want to be sure that you understand that it is not good advice to give you at this time to operate on cases of intrinsic carcinoma of the larynx by that means. I am afraid that some men might think that this is an operation of choice and do it, and thus do more harm than good. In the second place, it would seem to me that as we progress along the line of study of operation for carcinoma of the larynx, the operations are going to divide themselves into two types—the thyroidotomy and the laryngectomy types. The cases requiring hemilaryngectomy will, very likely, give much better results under total laryngectomy. I have had seven cases with five cures and no immediate deaths, within ten days from the operation, the recurrence taking place within ten months in the shortest time. That is, the patient who got the least benefit from the laryngectomy lived ten months, and in this particular case he was especially grateful for this added period to his life in order to wind up his affairs so that he might leave them in shape for his family. Five of these patients are perfectly well up until the present time. Three of them are farmers who have been through three crops. That is, they have planted and harvested their crops three times, and their families have been provided for by that means. The others are clerks, and all are particularly happy and grateful. All can do without pad and pencil, in that they have been able to develop a type of speech that is understandable by their associates.

My procedure has always been by means of a preliminary tracheotomy, and at first low down, but now high up. I have not seen any cases in which the tumors have grown so large within two or three weeks following the tracheotomy as to make me feel that the tracheotomy itself had jeopardized the patient's welfare as far as his recovery was concerned. Giving always the ether vapor anesthesia, and giving the vapor through the tracheotomy tube has certainly facilitated every manipulation during the operative procedure. I now take away with the larynx the superficial thyroid muscles, the sternothyroid and sternohyoid, that group of muscles overlying the anterior face of the larynx.

I first started rectal feeding after the operation, but that has been supplanted by the use of the nasal tube or the introduction of the small catheter, just as one would do with a stomach tube, keeping the end of the catheter out of the stomach; that is important, in order to get away from the nausea or postfeeding vomiting. The tube should be inserted down to the neck, so that the esophagus may take care of the swallowing to the stomach.

The method of the care of the trachea, to me, has seemed very important. I pare the trachea and larynx, and attempt to separate at one point the trachea from the esophagus, and then I put in a tape, so that I may hold the trachea up until it is bent in that fashion. When things are ready I cut the trachea from above down, and the only bleeding that occurs is from the mucous membrane of the trachea. Before the trachea is cut a heavy silk suture is put in and held by an assistant. This prevents any blood from going down into the trachea. The anesthesia is carried on through a very small tracheotomy tube, which lies in the opening, and is also under the care of the assistant, who steadies the trachea. He has nothing to do but be sure that nothing enters the trachea. I do not know whether that is what keeps us from pneumonia or not, but we had no post-

operative disturbance, and the remarkable gain in weight and the comfort that these people enjoy after the removal of the mass make it well worth while. It does seem to me that laryngectomy is not nearly so bad a thing for the patient as one would gather from reading the older articles on these subjects.

Dr. Harmon Smith, New York City: The reader of the paper cited a report of a case made by me. Last week I saw the woman. Her voice has returned, and she has gained in weight, although that was not necessary, as she weighed two hundred pounds to begin with. I believe that it was of low grade malignancy, of a papilloma carcinomatous variety.

Dr. D. Bryson Delavan, New York City: Yesterday morning I exhibited to a number of members of the society a patient who had been operated on by a friend of mine in New York City twenty-one years ago, two-thirds of the larynx being removed, and he is perfectly well today. That is one of the few cases followed and the end results studied.

Dr. Hubert Arrowsmith, Brooklyn, closing: The plea I make is one of the utmost importance. If we are going to reach conclusions we want to know what becomes of the patient. Perhaps we do not all realize that our distinguished honorary president, Dr. Solis Cohen, was the originator of this method of handling the stump of the trachea, an invaluable step in the after treatment of laryngectomy, and I think that he was the first to do a laryngectomy in America.

Dr. J. Solis Cohen, Philadelphia: I was not the first to do a laryngectomy, but the first to report the case.

A Carcinoma of the Epiglottis and Root of the Tongue Removed by the Simpson Radium Needles, with Description of a Needle-Placing Instrument.

By OTTO T. FREER, M. D., Chicago.

Dr. Frank Edward Simpson of Chicago in 1914 devised short, hollow needles one and one-sixteenth of an inch long and one-sixteenth of an inch thick, made of steel and platinum plated with gold, the cavity of the needle being packed with twelve millimeters of radium sulphate, which is sealed within the needle after the detachable eye portion of the needle has been screwed down upon its hollow shank. The wall of the hollow needle is three-tenths of a millimeter thick—thick enough to filter out the irritating alpha and softer beta rays, while permitting the hard beta and gamma rays to pass freely through the wall of the needle.

The needles are stout enough to endure the firm grasp of a needle holder for their introduction into the tissues.

With several Simpson needles the effective so-called crossfiring of radium rays may be produced—that is, instead of the radium rays proceeding from a single source in the center of a growth it is easy to place a number of needles at its periphery as well as in the center, so that not only is the growth evenly influenced by multiple radiation, but the apparently healthy zone about the tumor is deeply penetrated by the rays, so helping to prevent a local return of the growth.

A valuable quality of the needles is their comparatively easy insertion, so that only occasionally, where a tumor is tough and resistant, is it necessary to place them in a preliminary knife cut, for as a rule they may be directly thrust into the growth.

It is generally agreed that malignant tumors should be destroyed at one sitting by one very large dose of radium. This is not only done in order to minimize the danger of metastases risked by waiting for the effect of lesser doses at intervals, but it is experience that the effect of a single large dose is proportionately greater than that of the sum of smaller ones that equal it in quantity. It has also been found that a tumor is less influenced by later doses than by the first one, a species of tolerance being established for radium. The demand for a single completely effective large dose of radium rays is filled by leaving the Simpson needles in place for from nine to twelve hours. Their efficient screening prevents the undesirable integumental burns that were so common before it became known that the soft beta rays and the alpha rays must be filtered out.

The difficulty in accurately inserting the needles with forceps in this case, the roughening of the surface of the costly needle by the blades and the annoyance caused by the dragging thread that trailed the needle, led the writer to construct a needle placer for inserting the needles, a device which in the case of a carcinoma of the laryngopharynx just treated has permitted their exact introduction in-

to the flesh with an accuracy and ease that, he thinks, will make it possible to needle even intrinsic carcinomas of the larynx by the indirect, mirror method of laryngoscopy, a method so much less distressing to the patient than direct or suspension laryngoscopy.

Mistakes in Administration of Induced Pneumothorax

As common mistakes in the performance of artificial pneumothorax Shortle of Albuquerque instances: (1) continuance of the measure when there has been a failure to recognize that not even partial collapse has been obtained; (2) over-dosage, the injection of too much air; (3) faulty selection of cases—the operation should be made only on patients who are doing unfavorably under other therapy; (4) carelessness in the technique of operation—there should be rigid asepsis, a large needle should be used, and local anesthesia employed; (5) lack of control of patients between operations; and (6) allowing the lung to re-expand too soon after the institution of treatment or too rapidly, once a return to normal is indicated.—(*American Review of Tuberculosis*, September, 1919.)

A Modified Application of the Rationale of Fresh Air Treatment

According to Baruch, whatever benefits are derived from fresh air treatment are due to vasomotor stimulation by the movement of outdoor air at the proper temperature. This stimulation is beneficial to all the organs that receive it reflexly. The physiological effect of cool air and water is similar although the latter, because it transmits its temperature to the skin twenty-seven times more rapidly than does the air, provokes a much more rapid and active response. Exposure of the body to water can therefore be used for the same therapeutic purposes as exposure to fresh air; and vasomotor stimulation by judicious water treatment enhances the fresh air effect so much that the final result is improved at least fifty per cent. by its addition to the other treatment. The procedure should be mild and methodical, and beneficial results are to be obtained only by supervision and close attention to details, which the author is careful to particularize.—(*American Review of Tuberculosis*, September, 1919.)

MEDICAL SOCIETY OF VIRGINIA.

PROGRAM

of the

FIFTIETH ANNUAL SESSION

October 28-31, 1919.

RICHMOND, VIRGINIA.

All meetings will be held in the Jefferson Hotel.

LOCAL COMMITTEE OF ARRANGEMENTS.

Dr. Paul W. Howle, *Chairman*

Dr. A. G. Brown	Dr. Beverley R. Tucker
Dr. J. Allison Hodges	Dr. Chas. V. Carrington
Dr. Thomas W. Murrell	Dr. St. George T. Grinnan
Dr. Robert C. Bryan	Dr. Stuart Michaux
Dr. W. A. Shepherd	Dr. A. Murat Willis

Dr. Virginius Harrison

MEDICAL SOCIETY OF VIRGINIA.

OFFICERS

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Vice-Presidents—Dr. S. W. Dickinson, Marion; Dr. Harry T. Marshall, University; Dr. C. D. Barksdale, Sutherlin

Secretary-Treasurer—Dr. Paulus A. Irving, Farmville

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Chairman Judiciary Committee, Dr. Chas. R. Grandy, Norfolk

Chairman Necrological Committee, Dr. Chas. M. Edwards, Richmond

EXECUTIVE COUNCIL

Dr. A. L. Gray, *Chairman*

Dr. A. G. Brown, Jr., *Clerk*

STATE AT LARGE

Dr. Jno. Staige Davis
Dr. A. L. Gray
Dr. F. H. Hancock
Dr. B. R. Tucker
Dr. W. R. Cushing

First District—Dr. Clarence Porter Jones
Second District—Dr. R. E. Whitehead
Third District—Dr. A. G. Brown, Jr.
Fourth District—Dr. E. L. Kendig
Fifth District—Dr. S. T. A. Kent
Sixth District—Dr. J. R. Garrett
Seventh District—Dr. H. H. McGuire
Eighth District—Dr. P. C. Riley
Ninth District—Dr. Isaac Peirce
Tenth District—Dr. Chas. H. Davidson

Delegates to the American Medical Association

Dr. W. E. Anderson, Farmville.
Dr. Southgate Leigh, Norfolk.
Dr. R. C. Bryan, Richmond.

MEETING OF THE HOUSE OF DELEGATES

The House of Delegates will meet in room 630, at 9:00 A. M., Tuesday, October 28, 1919.

The County or Component Societies are urged to send to this meeting its quota of Delegates. Each Society is entitled to one Delegate and an additional

Delegate for every thirty-five members or major fraction thereof.

PROCEEDINGS

TUESDAY, OCTOBER 28
8:00 P. M.

Meeting for the public and the profession.

The Society will be called to order by the President, Dr. Ennion G. Williams, Richmond.

Invocation_____Rev. W. H. Burkhardt, Richmond

Announcements of Local Committee of Arrangements

Address of the President
Dr. Ennion G. Williams, Richmond

Semi-Centennial History of the Medical Society of Virginia_____Dr. John N. Upshur, Richmond

The Egotistical I_____Dr. George Ross, Richmond

Report of the Executive Council

Report of the Judiciary Committee

Report of the Membership Committee

Report of the Legislative Committee

Report of the Necrological Committee

Report of the Delegates to the American Medical Association

Report of the Secretary-Treasurer

WEDNESDAY, OCTOBER 29

9:00 A. M.—Meeting of the House of Delegates

Morning Session, 10:00 A. M. to 1:00 P. M.

10:00 A. M.—Report of Clinical Cases. (Five minutes for each report)

SUBJECT FOR DISCUSSION

Gastric and Duodenal Ulcer

(a) Etiology and Symptomatology,
Dr. C. R. Grandy, Norfolk

(b) Diagnosis and Medical Treatment,
Dr. Edward McGuire, Richmond

(c) Surgical Treatment,
Dr. Stephen Watts, University

PAPERS

Medical Section

Gonorrheal Rheumatism__Dr. S. H. Graves, Norfolk

Early Diagnosis of Dementia Precox,
Dr. G. C. Parker, Norfolk

Lethargic Encephalitis,
Dr. Beverley R. Tucker, Richmond

The Diagnosis and Treatment of Cerebro-Spinal Meningitis_____Dr. A. P. Traynham, Richmond

Neurological Factors in Diseases Regarded Otherwise____Dr. Tom A. Williams, Washington, D. C.

Some Unique Facts Pertaining to the Medical Profession and the World War,
Dr. B. C. Keister, Roanoke

Surgical Section

Restoration of the Bile Passage, with Report of a Case_____Dr. J. D. Collins, Portsmouth

Surgical Treatment of Intestinal Stasis,
Dr. J. S. Horsley, Richmond

Surgery of the Gall Bladder__Dr. J. E. Rawls, Suffolk

Peritoneal Lavage in the Treatment of Peritonitis,
Dr. A. M. Willis, Richmond

Enterostomy for Post-Operative Intestinal Obstruction_____Dr. A. S. Brinkley, Richmond

A Simple Method of Controlling Secondary Hemorrhage After Operation for Piles,
Dr. R. Bruce James, Danville

WEDNESDAY AFTERNOON
3:00 to 6:00 P. M.

Medical Section

The Latent Rale in Tuberculosis,
Dr. B. L. Taliaferro, Catawba Sanatorium

Hemoptysis_____Dr. E. E. Watson, Salem

The Home Treatment of Pulmonary Tuberculosis,
Dr. W. E. Brown, Catawba Sanatorium

Artificial Pneumothorax__Dr. F. G. Simmons, Salem

The Treatment of Bronchial Asthma with Vaccines,
Dr. J. M. Hutcheson, Richmond

Hemorrhagic Pneumonitis,
Dr. J. G. Nelson, Richmond

Prognostic Factors in Pneumonia During the Influenza Epidemic_____Dr. J. H. Smith, Richmond

Roentgen Ray in Pneumonia and Its Complications,
Dr. Fred M. Hodges, Richmond

Surgical Section

The Relation of Etiological Factors to the Treatment of Pelvic Inflammation,
Dr. C. R. Robins, Richmond

The Prevalence of Neglected Gynecological Disorders,
Dr. E. H. Richardson, Baltimore, Md.

The Perineum: As it Concerns Obstetrics,
Dr. G. Bentley Byrd, Norfolk

Abruptio Placentae: Report of a Case of Complete Separation Before Labor—Caesarean Section; Recovery____Dr. Virginius Harrison, Richmond

Results of Operation Upon 600 Women for Pelvic Diseases (Lantern Slides),
Dr. G. P. LaRoque, Richmond

The Influence of the Great War on Surgery,
Dr. W. L. Peple, Richmond

Some Points in Surgical Diagnosis,
Dr. James H. Culpepper, Norfolk

WEDNESDAY EVENING
8:00 to 10:00 P. M.

GENERAL MEETING

Papers by Invited Guests

The Educational Treatment of Diseases of the Stomach and Intestines,
Dr. Seale Harris, Birmingham, Ala.

The Science and Practice of Internal Medicine,
Dr. Henry A. Christian, Boston, Mass.

Accomplishments of the X-Ray During the War,
Col. George C. Johnston, M. C., U. S. Army,
Pittsburgh, Pa.

Smoker_____Jefferson Auditorium

THURSDAY, OCTOBER 30
9:00 A. M. to 1:00 P. M.

Medical Section

Some Nutritional Problems in Children,
Dr. D. P. West, Norfolk

The Symptoms and Treatment of Acute Intestinal Intoxication, With and Without Acidosis,
Dr. J. S. Weitzel, Richmond

On the Roentgen Rays in the Treatment of Menstrual Disorders_____Dr. J. W. Hunter, Norfolk

Radium Therapy_____Dr. S. W. Budd, Richmond

A Consideration of Symptoms and Signs Suggesting the Possibility of Syphilis, Observed in Routine Examinations_____Dr. J. D. Willis, Roanoke

Report of a Few Cases of Syphilis as Seen in the Army_____Dr. M. C. Sycle, Richmond

Group Medicine and Its Feasibility and Value to Patients and Physicians,
Dr. J. A. Hodges, Richmond

The Importance of Routine Bacteriological Studies in Eye Diseases——Dr. Emory Hill, Richmond

Surgical Section

Tumors of Lymphoid Character,
Dr. H. T. Marshall, University
Nitrous Oxide Oxygen in Mouth and Throat Operations——Dr. Harry Harrison, Norfolk
Diagnostic Value of Ear Examinations by the Turning and Douching Tests,
Dr. C. R. Dufour, Washington, D. C.
Fractured Vertebra: Report of Cases,
Dr. W. L. Powell, Roanoke
Traumatic Ruptnre of the Diaphragm, with Fracture of the Second and Third Lumbar Vertebrae; Operation; Recovery,
Dr. S. S. Gale, Roanoke
The Repair of Cranial Defects by Autogenous Cranial Transplants (Lantern Slides),
Dr. C. C. Coleman, Richmond
Chronic Knee Strains—Dr. H. Page Mauck, Richmond

THURSDAY AFTERNOON

3:00 to 6:00 P. M.

Special Order—Report of House of Delegates

Medical Section

Tetany Without Gastric Symptoms in Adults,
Dr. W. H. Higgins, Richmond
Hydrochloric Acid in the Symptomatology and Therapy of Stomach Diseases,
Dr. Alex. G. Brown, Jr., Richmond
The Laboratory Diagnosis of Typhoid Fever,
Dr. E. C. L. Miller and Mr. A. H. Straus, Richmond
Tuberculosis and the General Practitioner,
Dr. H. G. Carter, Burkeville

Surgical Section

Bladder Diverticulum with Report of Three Cases,
Dr. R. L. Payne, Norfolk
Report of a Case of Carcinoma of the Bladder, with Transplantation of the Ureter,
Dr. L. T. Price, Richmond
Operations on the Prostate,
Dr. Robt. C. Bryan, Richmond
Surgical Cleanliness—Dr. Southgate Leigh, Norfolk
Goiter Operations (Lantern Slides),
Dr. W. F. Grigg, Richmond
Cystitis; Some Remarks Concerning Its Diagnosis Based on Cystoscopic Studies,
Dr. R. C. Fravel, Richmond

THURSDAY EVENING

Entertainment by the Local Profession
Announcement to be made

FRIDAY, OCTOBER 31

9 A. M.

Unfinished Business
Papers—Subjects to be announced.
Introduction of President-Elect
Adjournment

PAPERS AND DISCUSSIONS

The time limit in reading a paper is twenty minutes. In discussions or speaking to a motion no speech is to exceed five minutes, and no speaker is permitted more than twice in discussing a paper or speaking to a motion. The absence of the author when his paper is called in the regular sequence relegates such a paper to the end of the program.

Papers are the property of the Society and must be handed to the Secretary just after being read.

REGISTRATION, BUTTONS, ETC.

All members, fraternal delegates, invited guests and visitors are requested to register promptly. Registration cards may be gotten at the Registrar's desk. Any member who has not already been provided with a Society button may secure one from the Registrar. Any member who has already been provided with a button, but lost or mislaid it, may get another for 25 cents.

ANNUAL DUES

Members, not members of county societies, are requested to remit the annual dues ($2.00) to the Treasurer as promptly as possible.

CHANGE OF ADDRESS

Members will please notify the Secretary of change in postoffice addresses.

EXHIBITS

Ample space has been reserved for exhibits of medical and surgical supplies, etc.

Doctors who expect ladies to accompany them will please notify Chairman of Entertainment Committee.

The County Society.

By the request of the Council, this Department is being edited by Dr. Southgate Leigh, 109 College Place, Norfolk, Virginia.

The Approaching Meeting of the State Society.

This promises to be the most attractive and best attended meeting which the Society has ever held, coming as it does after an interim of two years, and after the victorious conclusion of a great war in which the profession of Virginia took a prominent and vital part; and, offering an inviting and interesting program, it will appeal strongly to the doctors of the State. And in addition there are many and weighty matters affecting the welfare of the profession, and the public through the profession, which must be seriously considered and settled.

The Medical Society of Virginia is an old and strong organization, which, though possibly too conservative, has always served the profession faithfully and successfully. It is not controlled by one man, or set of men, but belongs to the individual doctors of the State to be directed by them as they see fit. It does not belong to Richmond, or to Norfolk, or to any other section, but to the entire State. If at times men from one section or another seem to dominate its affairs it is simply because of their deep interest in its success and because they are willing to give freely of their time and energy.

At this time in particular, the officers and others who are managing its affairs are "after

nothing" themselves, but are deeply impressed with the fact that now is the time for all to get together, and work together to make a powerful, effective, productive organization of the State Society, for the uplift and development of the profession of Virginia and for the good of the people of the State.

With that end in view we are appealing to the doctors of Virginia to attend the coming meeting in *larger numbers than ever before*, and with the spirit and determination to accomplish great things for the profession.

The House of Delegates.

This body, which will be organized for the first time, will have entire charge of all matters of business and policy. It will be composed of delegates from the various County Societies. To make it truly representative and effective, every County in the State should *appoint and send its delegates*. The principal meetings will be held before the initial session of the Society so as not to interfere with the Scientific program.

There are many and important matters to be dealt with, outside of the usual routine business affairs.

Among the first is the proposition to appoint an all-time Secretary and Business Manager for the Society. A committee, selected by the Council and headed by President Williams, has for some time been investigating this important matter, and will make its report to the House of Delegates.

Under the new plan of organization, the Council will in the future act as the Executive Committee of the House of Delegates, looking after its affairs between meetings, each Councillor being especially the organizer, advisor, and censor of the County Societies in his district, and really being responsible to the House of Delegates for the welfare and development of the local Societies.

The Virginia Medical Monthly, founded and published for so many years by the late lamented and greatly beloved Landon B. Edwards, has during the past few months most wisely been taken over by the Council and published as the official organ of the Society. The future of this journal, its further development, and increased usefulness will be among the important matters to be settled by the House of Delegates. The Publication Committee, ably assisted by Miss Agnes Edwards, has made many improvements in the Journal, and been most successful in its management, during times of stress and uncertainty.

As a means of frequent communication between the State Society, its component societies, and the individual doctors, the Journal is essential. For medical uplift, education and development, its usefulness will be limited only by the amount of interest shown by the profession.

Each large community should follow the example set by Roanoke of having a special number for its contributions. Every local Society should report its proceedings and discussions, and all matters of personal interest to the profession should be published in its already very popular "personal" column.

The County Society Development will necessarily occupy much of the time of the House of Delegates. Organization methods must be devised which will take care of the situation in a business-like way. The full strength and influence of the Medical Society of Virginia cannot be attained until every county in the State has its own individual Society. The social and scientific development of the local Society cannot be advanced until it is first strongly and permanently organized.

With representatives from every county of the State, and with the spirit of progress and broadmindedness, which will undoubtedly actuate its members, the new House of Delegates will have a great opportunity and will do great things for the profession of Virginia.

The Scientific Assembly.

We use this term to distinguish the literary part of the State Society's work from the business part, which latter will be taken care of by the House of Delegates.

Virginia is much behind the other States in the development of this part of the State Society's work.

Every thoughtful man in the profession has certain medical knowledge which would be useful to others. It is his duty to impart this knowledge. The wisest among us can often gain useful information from the lowliest. There are no patents or copyrights on medical knowledge. Every doctor is willing to

impart the good things he knows for the benefit of his fellows. The chief difficulty is that many are so modest and retiring that they keep quiet when it is plainly their duty to speak and write.

At the local Society meetings, there should be at all times the freest exchange of thought and experience, and at the State meetings, the best of these should be given to the profession at large by presentation of papers, reports of cases, and general discussions.

Nothing does a medical man more good than to attend medical meetings. It broadens his mind, adds to his store of knowledge and especially inspires and stimulates him to more thorough work and study. He returns to his home each time a better doctor and broader man.

The amount of good derived from medical meetings is in exact proportion to the interest and trouble taken by the various members to make themselves mutually beneficial one to the other, and the interest shown by one and all to make the meetings most successful.

For the Medical Society of Virginia the future has great things in store. Its annual meetings will be made more and more useful, productive and elevating. There are many developments that have not yet been tried. Among them are the holding of clinics of instruction in certain useful procedures, lectures by men eminent in certain lines and display of pathological specimens.

Let us all, doctors of Virginia, make every effort to attend the coming meeting, send delegates from every county, attend the sessions regularly, take part freely in the discussions, and unite in strong effort to develop medical organization in the State, so that we may all of us reap to the fullest extent its manifold benefits.

We hope that this issue of the Journal will be distributed in time for those Societies which have not yet met to be called together for organization and naming of delegates.

This is a matter of extreme importance. *We trust that each one of you who reads this notice will take steps at once to do his part.*

Charters for newly organized Societies may be obtained at the Richmond meeting.

Analyses, Selections, Etc.

Pruritus Ani.

Dr. E. H. Terrell, Richmond, in a paper read before the American Proctologic Society, at Atlantic City, in June, states that during the past seven months he has examined forty-four patients with pruritus ani. In thirty-nine of these, small infected sinuses were observed. The openings of these sinuses were found at or just beneath the ano-rectal line, and from these a small probe, bent at an acute angle, was found to pass downward under the skin of the affected parts. A careful and painstaking inspection of every part of the anal canal is necessary in locating these sinuses, and Dr. Terrell has found the "Physiological Anal Speculum," devised by Dr. F. P. Nourse, of Lewiston, Idaho, the best instrument for this purpose. In the severe cases of pruritus, from three to four sinuses were found, but in the milder localized cases not infrequently only one sinus was found. It is the opinion of the author that the irritation from one sinus involves not more than one-fourth of the circumference of the anus.

The treatment consists in opening the sinuses from above downward, under local anaesthesia, using a bent probe as a guide. Twenty-five cases have been operated on by Dr. Terrell, after this manner, with complete relief of the symptoms when the parts had healed.

WHAT WE KNOW ABOUT CANCER.

(*Continued from page* 125.)

III.

"Precancerous" Conditions.

One factor which during the last ten years has proved to be of great importance in the origin of cancer is the element of chronic irritation. As the various theories of the parasitic origin of cancer have been disproved, the element of chronic irritation has been found to become an increasingly important factor in the incidence of cancer in one region after another. This fact has made it possible to give prophylactic treatment for the purpose of preventing

the occurrence of cancer, a procedure which is exactly as rational as the prophylactic use of antitoxins in many of the infectious diseases, and in fact is perhaps a more effective life-saving measure. This prophylactic treatment consists of the removal by a minor operation, often under local anesthesia, of lesions such as keratoses, moles, fissures, chronic ulcerations and indurations, and the benign tumors, which so often precede the development of cancer itself. This prophylaxis further demands the avoidance of sources of chronic irritation, such as, for instance, the removal of an ill-fitting tooth plate which causes irritation of the gum, or the repair, at as early a date as possible, of the deeper lacerations of the cervix which occur at childbirth.

The more important lesions which may be regarded as of precancerous significance may be summarized as follows:

1. *Pigmented moles* have long been recognized to be the starting point of that most fatal form of malignant disease, the so-called melanotic sarcoma.[1] Not all moles, of course, undergo that transformation, but all must be held to contain that inherent possibility of development, and on the slighest sign of increase in size, irritation or induration, they should be widely removed by radical operation. Pigmented moles on the hands and feet are especially liable to repeated trauma, and thus to malignant change.

2. The *senile keratoses,* or scaling patches of heaped up squamous epithelium, so common on the face and exposed parts of the body of those of advancing years, are among the most common starting points for cancer of the skin.

3. *Chronic ulcers and fissures of the skin* due to old burns and scars, the effects of roentgen rays and radium, tuberculosis of the skin, and old syphilitic lesions often cause cancer. To this category belongs the "Kangri" cancer of Kashmir (squamous cell carcinoma of the abdominal wall), occurring at the site of chronic ulceration due to burning from the Kangri basket, or hot stove carried against the abdominal skin within the clothing of the natives.

4. *Gallstones* are accompanied by chronic irritation of the gallbladder, and in a certain percentage of cases carcinoma of the gallbladder occurs.

5. A certain proportion of *ulcers of the stomach* are known to become the site of cancer of that organ, and a history which can be interpreted as evidence of previous ulcer is obtainable in certain cases of gastric cancer.

6. *Erosions and lacerations of the cervix* of the uterus, the almost inevitable result of childbirth, are the most common factors predisposing to cancer of the cervix. While it is customary for the physician to repair immediately the more serious lacerations of the cervix, less extensive lesions can be detected only at a later period after involution has occurred. The routine examination of all women for cervical lesions three months after labor has been advocated, that these lesions may be immediately repaired, and the predisposition to cancer avoided. It is advisable that all women who have borne children, as they approach the menopause, should have a vaginal examination and an inspection of the cervix at reasonable intervals until the menopause is well established, and the normal atrophic changes have taken place. Deep lacerations should be repaired, and superficial lesions, if resistant to local treatment, are sufficient indication for amputation of the cervix. The hyperplastic endometritis which accompanies fibromyoma of the uterus is also believed to be one of the most important predisposing causes of cancer of the fundus.

7. *Cystitis* of one form or another often precedes cancer of the bladder, and the irritation of Bilharzia parasites or of specific chemical irritants, such as anilin, are recognized as producing changes in the bladder mucosa which may go on to carcinoma.

8. Carcinoma of the buccal mucous membranes—the lip, tongue, cheek and jaw—have long been associated with one or another source of *chronic irritation.* In this country the most common source of chronic irritation

1. Melanotic sarcoma is believed by some good authorities to be in reality a form of epithelial tumor—i. e., carcinoma.

of the buccal mucous membranes is the use of tobacco. It is significant, also, that in other countries, as the orient, cancer of the buccal mucous membranes appears to arise most directly as the consequence of the chewing of other irritants, such as the buyo leaf or the betel nut. Syphilis is also a recognized predisposing factor to cancer of the month, and the chronic hyperplastic condition of the buccal mucous membrane—leukoplakia—has repeatedly been observed to progress into carcinoma while under treatment. The irritation of ill-fitting tooth plates, or the chronic irritation of pyorrhea alveolaris occasionally can be recognized as forerunners of cancer of the alveolar processes.

9. *Kraurosis and leukoplakia of the vulva* are forms of superficial lesions, benign in origin, which exhibit a definite tendency to subsequent malignant change. Suitable treatment and close and continued observation to detect the early signs of the development of cancer must not be neglected, in order that radical operative treatment may be instituted during the early stages when the disease can thus be cured.

10. *Involution changes* of a physiologic nature appear to predispose to cancer in certain organs, notably the female breast, and the male prostate. In the breast the involution phenomena which give rise to the condition commonly known as chronic cystic mastitis show an incidence of carcinoma estimated at from 10 to 25 per cent., while in the prostate chronic prostatitis and hypertrophy precede the symptoms of carcinoma in a notable proportion of all cases.

11. *Many tumors which are essentially benign* in character have been shown to be capable of malignant transformation, especially in the later years of life. These include papillomas, adenomas of the thyroid and of the intestines, villous tumors of the bladder, papillary and cystic tumors of the ovary and of the breast, polyps of the uterus or the rectum, and, in fact, all tumors in which the epithelial elements are in preponderance.

In all of the foregoing conditions the possibility, if not the probability, of cancerous transformation has been shown to be a serious element in prognosis. There can be no question that the cure or the removal of all such lesions is a vital indication. Removal of the predisposing causes of cancer, and the early recognition of cancer, when it is present, are the two measures which give promise at the present time of yielding the greatest results in reducing the mortality of the disease.

IV.

CARCINOMA OF DIFFERENT ORGANS.

1. Carcinoma of the External Skin.

This is a common form of cancer found chiefly among persons of advanced age, and on the exposed parts of the body, especially in those who have long followed outdoor occupations. It is slow growing, usually only locally invasive and malignant, and rarely produces remote metastases. There are two main types: (1) those arising from the differentiated squamous cells, and (2) those originating from the less differentiated basal cells of the epithelium and reproducing themselves in the form of gland ducts or hair matrix cells. The squamous cell type is more likely to show extension to the lymphatic glands in the neighborhood, but not, as a rule, until late in the course of the disease. Carcinoma of the external skin is especially liable to occur as a secondary change in preexisting fissures, keratoses, and chronic ulcerations and indurations.

Symptoms.—The development of a tumor involving the skin, or of a chronic ulceration covered with a crust and presenting an indurated base and periphery, is suggestive of carcinoma and demands investigation. Especially is this true when the lesion has been traumatized or subjected to chronic irritation.

Differential Diagnosis.—Differential diagnosis requires that syphilis, tuberculosis, and some of the rarer forms of skin diseases be considered. In doubtful cases the operative excision of the whole lesion, with a wide margin, and the pathologic investigation of the tissue, is the safest course.

Precancerous Lesions.—Warts, keratoses and chronic ulcers, when possible, should be excised or destroyed before they have an opportunity to undergo secondary malignant changes and become cancer. This can usually be done by a very minor operation, often with local an-

esthesia. Many of the more superficial lesions of this nature can safely be eradicated by radium, roentgen ray or even caustic applications, but the clean surgical excision is undoubtedly the safest method.

Standard Operative Treatment.—The standard operative treatment is total excision, with a considerable margin of healthy tissue. Where extension to neighboring lymphatic nodes is thought to have occurred, dissection of the affected territory, with removal of the diseased nodes and those immediately beyond them, in one mass, should be performed. Superficial carcinoma of the face, especially in the region of the eyelids, may be subjected to treatment with roentgen rays or radium, in order that deforming scars may be avoided. While less certain than operation, treatment by radiation in suitable cases offers the prospect of a soft and less conspicuous scar, and the same may be said in regard to the treatment of very superficial lesions with the curet and caustic agents, but any application of such methods, especially freezing or electrolysis, which does not insure the destruction of every malignant cell, is to be condemned.

Results.—Statistics are difficult to obtain on cases of this character. On account of the relative infrequency or retardation of metastatic extension, cure by early complete excision should be obtainable in every case of non-metastasizing carcinoma of the skin. It is a fact, however, that an incomplete excision is often done in the effort to remove no more tissue than absolutely needed, whereas a wide margin is essential to a successful operation. In the few cases which do produce metastases the block dissection of the regional lymph nodes, together with the operative excision of the tumor should yield a very large percentage of cures in early cases.

(To be continued.)

Correspondence.

Letter to Members, Medical Society of Virginia.

Members of Medical Society of Virginia:

We are getting things in shape for the Annual Meeting at Richmond, October 28-31, 1919.

We need all the *funds* we can get, to meet our current expenses, cost of meeting, programs, etc., and to pay for the *Virginia Medical Monthly*, which we contemplate buying, and for which we will have to pay "the cash."

You would be surprised to know the amount on the books that the members owe to the Society. This is a small amount to the individual member, but in the aggregate it is a large sum due the Society, hence I am reminding you of your dues.

This is the *last call* before the meeting. Won't you please send us your check by return mail, and enable us to discharge all of our obligations? Don't lay this request aside, saying that you will attend to it later, but *do so at once.*

I hope you are coming to Richmond, October 28-31, 1919. Remember the date.

It will be an attractive meeting in every way. There are so many papers that we will have two sections—a *Medical* and *Surgical section* going on at the same time—some most interesting papers, judging by the titles.

The local Committee of Arrangements is planning many attractive entertainments for the pleasure and social life of the Society, so don't fail to come early and stay through the entire meeting.

The House of Delegates is called to meet at 9 A. M., October 28, 1919, Jefferson Hotel, for organization and any other business that may be brought before it.

Some surprises are in store and *some radical changes* may be suggested, so come and take part in the discussions and do what is best for the interest of the Society.

Each County Society is urged to send its quota of Delegates—one Delegate for every thirty-five (35) members, or fraction thereof. Each Society is entitled to one Delegate, however small its membership.

Hoping to meet you at Richmond, October 28-31, 1919, and, with many thanks for your *prompt remittance*, believe me,

Fraternally yours,

P. A. Irving,

Sec'y-Treas.

Virginia Medical Monthly

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Editorial.

Richmond Meeting.

Members of the Medical Society of Virginia may feel sure of a hearty welcome to Richmond, from the local profession, on the account of the semi-centennial meeting which convenes in the Jefferson Hotel Auditorium, October 28th at 8.00 P. M. The Richmond Academy of Medicine and Surgery, through its committee on entertainment of which Dr. P. W. Howle is chairman, is planning to entertain the members attending the convention. Members are urged to bring their wives with them as the reception committee is associating a ladies' committee to look after the pleasure of the ladies accompanying members of the Society.

Program.

As may be observed from a perusal of the program, the large number of papers to be presented made it necessary to divide the Society into two sections for the scientific program. After the general meeting on Wednesday at which the selected subject for discussion, Gastric and Duodenal Ulcer, will be considered by selected leaders and discussed by the Society, the president will divide the Society into two sections—medical and surgical. Each section will at once convene and the order as arranged by the committee of program will be followed.

On Wednesday night, in the Jefferson Hotel main auditorium before the entire Society, there will be three addresses by invited guests, Dr. Seale Harris, of Birmingham; Dr. Henry A. Christian, of Boston; Col. G. C. Johnston, of the X-ray department of the U. S. A. Following this, there will be an entertainment for the guests and members of the Society.

Thursday at 9 A. M., the medical and surgical sections will reconvene and continue the scientific program. Thursday in the afternoon, the general Society will meet for Society business and to receive the reports of the House of Delegates. After this, the sections will resume work on the scientific program. Thursday night, there will be a reception to the guests and members at the Jefferson Hotel.

Friday morning, the program will be continued and the new president introduced.

Papers and Discussions.

The *Virginia Medical Monthly*, it is hoped, will continue to be the official organ of the Medical Society of Virginia. As members should know, the Executive Council has secured an option on the journal from its owners for the sum of $1,000.00. Should the plan of purchasing and conducting this journal (as shall be presented to the House of Delegates) be adopted and this journal become the property of the Society, it will serve more completely the purpose of recording and distributing for the information of the membership, the papers, discussions and transactions of its annual meeting. But, in order that the journal may properly perform this function, it is necessary and imperative that the papers, which under the by-laws of the Society immediately become its property, upon being presented to the Society and discussed by its members, shall pass into the possession of the secretary. In this way, the journal will be enabled to print these papers with the dis-

cussions during the coming year and these will give the members who were unable to attend the meeting opportunity of learning of the transactions of the Society.

Exhibits and Advertisements.

While the number of exhibits may not be as large as desired, the members will find them interesting and instructive. Often physicians may get valuable suggestions for use in practical work from exhibits of the convention. Certainly our friends among the manufacturers desire and should receive favorable attention. These exhibits are secured by invitation and meet requirements of highest medical standards.

The same is true of our advertisers and we take this opportunity to say that all medical advertisements appearing in the journal conform to the rules of the Council on Pharmacy and Chemistry of the A. M. A. Their quality and trustworthiness are assured and these advertisers should be favored by the membership with patronage, when possible. The journal receives no small part of its financial support from this source and, as the standard of our advertisers is high and as they favor us with their support, it seems but fair, if not highly desirous in the interest of mutual advancement of medicine, that the profession support them.

Will the "Flu" Return?

The United States Public Health Service, after a careful survey and investigation of the influenza pandemic of 1918-19, carried on in every State and important city, and even in foreign countries, issued the statement that probably, but by no means certainly, there will be a recurrence of the influenza epidemic this year. Indications are, that should it occur, it will not be as severe as the pandemic of the previous winter. The fact that a previous attack brings immunity in a certain percentage of cases should allay fear on the part of those afflicted in the previous epidemic.

It is not yet certain that the germ has been isolated, or discovered, and as a consequence there is yet no positive preventive, except the enforcement of rigid rules of sanitation and the avoidance of personal contact.

Contrary to the opinion expressed frequently during the early weeks of last year's pandemic by a number of observers, the studies of the U. S. Public Health Service indicate that the epidemic was not a fresh importation from abroad. Careful study of the mortality statistics of the United States shows that there were a number of extensive though mild forerunners of the pandemic during the previous three or four years. The reports of the U. S. Public Health Service of January, 1916, show influenza to be epidemic in 22 States, including practically all sections of the United States. The epidemic was generally of a mild type and has since been almost forgotten. It occasioned, however, a noticeable increase in the recorded death rate from pneumonia.

In the spring of 1918 there was another sharp rise in the mortality rate from pneumonia. In the larger cities of the Atlantic seaboard these increases occurred during January, February and March. In the rest of the country, especially the central and western States, the increases occurred in April, a month during which pneumonia mortality is generally on the decline. This increase was sufficient to indicate a strong departure from the normal. The increased mortality rate extended into May and in some areas even longer.

The prevalence of a serious epidemic of influenza was first recognized in and around Boston in September of 1918. Within about two weeks it was general in the Atlantic seaboard, developing a little later among cities further west. Rural districts were usually attacked somewhat later than large cities in the same sections.

Recurrences are characteristic of influenza epidemics; and the history of the last pandemic and previous ones would seem to point to the conclusion that this one has not yet run its full course. On the other hand this epidemic has already shown three more or less distinct phases and has been more severe, at least in mortality, than the three-year epidemic of 1889-92, facts which justify the hope, though not the conclusion, that it has run its course already.

Concerning the important question of immunity conferred by an attack of influenza, the evidence is not conclusive, but there is reason to believe that an attack during the earlier stages of the epidemic confers a considerable, but not absolute immunity in the later outbreaks.

In general the pandemic of influenza was largely similar to that of 1889-90 in its development, first a mild form, later in a severe world-wide epidemic, in the rapidity of its spread and its high case incidence. It has, however, been notably different in a much higher mortality, especially among young adults. Such evidence as has been gathered confirms the conclusion that it is transmitted directly and indirectly by contact. It appears probable, however, that the infection was already widely disseminated in this country sometime before a serious epidemic was recognized.

Despite the fact that there is still some uncertainty as to the nature of the micro-organism causing pandemic influenza, one thing is certain, that the disease is communicable from person to person. Moreover, judging from experience in other diseases, it is probable that the germ, whatever is nature, is carried about not only by those who are ill with influenza, but by persons who may be entirely well. Everything which increases personal contact, therefore, should be regarded as a factor in spreading influenza.

Third Survey of Hospitals.

The third survey of hospitals being made under the auspices of the American Medical Association is now well under way. Through an extensive correspondence and a third questionnaire, the Association has collected a mass of information on the subject. Much of the material has been tabulated and forwarded to committees in each state representing the state medical associations. Most of the state committees have arranged definite lines of action and by inspection of the hospitals or by other methods are securing first-hand information by which the data collected by the association is being carefully checked. The immediate end sought is to provide a reliable list of hospitals which are in position to furnish a satisfactory intern training. The investigation is not limited to intern hospitals, however, but will cover all institutions and the data obtained will be useful in any future action which may be taken in classifying hospitals.

The work in Virginia is in charge of a committee of which Dr. A. Murat Willis, of Richmond, is chairman, the other members being Dr. Southgate Leigh, Norfolk: Dr. J. Shelton Horsley, Richmond: Dr. S. H. Watts, University of Virginia: Dr. S. S. Gale, secretary and treasurer, Roanoke. The closer relationship which the hospital now bears to the public in the community which it serves makes it all the more important that the service rendered by it shall be excellent in character.

News of M. C. Officers.

Dr. Burnley Lankford, Norfolk, who with the rank of major, recently returned from overseas with Base Hospital Unit No. 45 (better known in this section as University of Virginia Base Hospital Unit), has just located in New Monroe Building, Norfolk, and will limit his practice to obstetrics and obstetric surgery. Dr. Lankford entered the Medical Reserve Corps in 1916 and served on the Medical Advisory Board of his district until he was ordered to active service. He has spent this past summer, since his discharge, in postgraduate work at Johns Hopkins Hospital, Baltimore, and the New York Lying-In Hospital.

Major J. N. Barney recently visited his home in Fredericksburg *en route* from Florida to a new post of duty. Major Barney, who has been at the Garden City (N. Y.) aviation camp, has been ordered to Phoenix, Arizona, for medical service with the aviation detachments on the Mexican border.

Dr. William L. Yarn, who saw service overseas and with the army of occupation in Germany, has returned to his home at Cumberland. While in the service, he was slightly wounded by a bursting shell.

Dr. R. R. Hoskins, who was stationed at the Debarkation Hospital, Hoboken, N. J., has resumed his practice at his old home in Mathews.

Dr. C. C. Coleman, who was in the service with the rank of major, has received his discharge and taken up his work in surgery in this city. He is located in the Professional Building.

Dr. S. B. Moore,

Alexandria, Va., announces that beginning October 1, 1919, he will limit his practice to general surgery and obstetrics.

The Southern Medical Association

Will hold its thirteenth annual meeting in Asheville N. C., November 10-13, under the presidency of Dr. Llewellys F. Barker, of Baltimore.

An interesting program, delightful entertainments and the natural attractions of Asheville promise to make this a banner meeting.

Married—

Dr. John A. B. Lowry, Crewe, Va., and Miss Mabel Johnson, Harrisburg, Pa., September 3. Dr. Lowry has recently located in Crewe, having served two years as regimental surgeon with the British army.

Dr. James Samuel Mitchener, Kinston, N. C., and Miss Bessie Williams, Arvonia, Va., October 16. They will make their home in Edenton, N. C.

Dr. and Mrs. J. H. Smoot,

Woodstock, Va., recently returned from a motor trip to New York City, Philadelphia, and Atlantic City.

Dr. E. A. Waugh,

Lynchburg, Va., enjoyed a month's vacation in Canada.

Drs. Tucker and Gayle.

Drs. Beverley R. Tucker and R. Finley Gayle, of this city, have formed a partnership with offices at Tucker Sanatorium, and will limit their practice to neurology and endocrinology.

Dr. Emily C. Runyon,

Who has been spending the summer in Connecticut, has returned to her home in this city.

Dr. P. B. Green,

Wytheville, Va., while examining an unoccupied car, the first of this month, in an effort to recover a stolen automobile, was attacked by the supposed owners, believed to be bootleggers, and was knocked unconscious for a short time. Although the men made their escape, the automobile was later recovered.

Red Cross Supplies Nitrous Oxide Gas.

Great quantities of nitrous oxide gas were supplied by the American Red Cross to the American hospitals in France. To the United States Army Hospital 699,429 gallons were sent, to the Red Cross Hospitals 495,629 gallons, and to different hospitals 251,110 gallons, between September, 1917, and October 23, 1918.

Nitrous oxide was first introduced into Europe by Col. Geo. W. Crile at the American Ambulance Hospital at Neuilly, and was well received. The especial effects of the gas are said by surgeons to cause no lowered vitality, less toxemia, less post-operative respiratory complications and the patient enjoys a quick return to consciousness.

Dr. W. H. Evans,

Lynchburg, Va., who was in the medical corps of the army with the rank of lieutenant during the war, has been recommended for reappointment as surgeon to the local national guard company, which appointment carries with it the rank of first lieutenant. Dr. Evans was formerly surgeon to the Home Guard, Company E, which was merged into Company L of the 116th Infantry, 29th Division.

Dr. J. E. Clagett,

Of Hamilton, Va., with Mrs. Clagett and their sons, visited relatives in Winchester, Va., recently.

New Ambulance for Hopewell, Va.

The Potomac Division of the American Red Cross has sent the Hopewell chapter a new ambulance of the war type with a four stretcher capacity, which is to be for the use of the community. The need for such an ambulance has been felt for some time as it recently required five hours to secure an ambulance to take a patient to a hospital.

Doctors on Board of Directors of Petersburg Hospital.

Since its foundation, the Petersburg, Va., Hospital had been under the control of a lady board of managers, but believing that a more effective work could be accomplished under a new form of management, a new board was formed consisting of ladies, business men and physicians. This board met the latter part of September, at which time Dr. William F. Drewry was elected vice-president, and Drs. J. Bolling Jones, Joseph D. Osborne and E. L. McGill were appointed the medical committee.

The Mississippi Valley Medical Association

Will hold its annual meeting in Louisville, Ky., October 21-23, under the presidency of Dr. Francis Pottenger, Monrovia, Calif. Dr. Henry Enos Tuley, Louisville, is secretary of this Society.

Dr. Fred M. Hodges,

Who returned from service abroad in the Spring, has opened offices at 801 West Grace Street, this city, and will limit his practice to roentgen ray diagnosis and therapy.

Drs. Edward McGuire and James H. Smith,

Of this city, who are associated in practice, have moved their offices to St. Luke's Hospital.

Increased Appropriation Asked for State Hospitals.

During the special session of the General Assembly of Virginia, in August, Governor Davis sent a message to that body, recommending the appropriation of $190,329 to meet outstanding bills and to provide for the increased cost of operation of the four State Hospitals and the State Epileptic Colony, for the seven months between August 1, 1919, and February 29, 1920. This appropriation was to be in addition to the regular funds already provided.

180 Americans Blinded in War.

Latest reports give the number of American expeditionary forces blinded in the war to be 180. About one-third of these soldiers are availing themselves of the opportunities for training offered under the direction of the Federal Board for Vocational Education. Poultry raising has been found to be one of the lucrative vocations for these men. Osteopathy and massage are attracting some as occupations desirable for the blind.

Dr. P. W. Miles,

Formerly of Ringgold, Va., is now located in Danville, Va., with offices at 563 Main Street.

Dr. and Mrs. Carrington Williams,

Of this city, are home again after spending some time with friends in Lewisburg, W. Va.

American Association of Electro-Therapeutics and Radiology.

At the annual meeting of this Association, held in Philadelphia, last month, Dr. William Martin, Atlantic City, N. J., was elected president, and Dr. Byron S. Price, New York City, secretary.

Dr. Robert Ferguson,

Of Gaffney, S. C., who is well known in this State and who studied medicine at a local school, is to build a private hospital in Gaffney to be known as Dr. Ferguson's Private Sanatorium. He will limit his practice to general and orthopedic surgery.

New Hospital for Eastern Shore, Va.

A charter has been asked for the Northampton-Accomac Hospital, which will be built at Wassamadox. It will be incorporated as a stock company. Two acres of land have been secured for the hospital.

Dr. W. W. Cleere

Has been appointed special health officer for Hopewell, Va. He and a specially appointed U. S. public health officer will cooperate in the work for the prevention of disease in that place.

The Watt Hairston Memorial Hospital,

Martinsville, Va., was opened for the reception of patients on the first of this month. The building and grounds were recently given to the residents of Henry County by Mrs. Hairston and the equipment has been furnished by public subscription.

The American Association of Obstetricians and Gynecologists

Held their annual meeting in Cincinnati, in September, at which time they elected Dr. George W. Crile, of Cleveland, president. Dr. E. Gustav Zinke, of Cincinnati, was re-elected secretary, a position he has held for a number of years.

Dr. William F. Porter,

Who located temporarily at Bardstown, Ky., after his discharge from the army, now has offices with Dr. E. H. Martin, in Dugan-Stuart Building, Hot Springs, Ark.

Dr. Alvah Hudson,

West Point, Va., paid a visit to Baltimore, the first of this month.

Dr. Robert P. Kelly,

Lynchburg, Va., left the first of this month for a two weeks' stay on Massachusetts Bay.

Dr. B. Bates McCluer,

Of Bon Air, Va., went to New York early in October, where he will be for some time.

French Campaign Against Tuberculosis.

French methods to combat the spread of tuberculosis which had gained a strong foothold in the country were practically nullified by the war until the American Red Cross came to the aid of the people. Through the agencies of the organization there is now a capacity for 1,983 bed patients in the tuberculosis hospitals in Paris and outside of Paris there are accommodations for 5,610.

An appropriation for a Serbian Hospital in Paris has also been made because it was found, after examination, that twenty per cent. of the 200,000 Serbs studying in the country were tubercular.

Dr. William H. Parker

Has been elected a member of the Richmond City School Board from the first district to succeed Roland H. Childrey, resigned, because of removal from this district.

Dr. M. W. Minor,

Comorn, Va., has been elected vice-president of a new bank just organized in King George County, Va., which will be opened at the county seat on January 1, 1920.

New Hospital to be Built in Lynchburg, Va.

Marshall Lodge of Masons, of Lynchburg, Va., has had plans drawn for a modern 100-room hospital to displace the present Home and Retreat Hospital, which was established thirty-three years ago. It is understood that a large gift is soon to be made for the building fund.

The New York and New England Association of Railway Surgeons

Will hold their twenty-eighth annual meeting at Hotel McAlpin, New York City, Monday, October 20th, 1919. A very interesting and attractive program has been arranged. A symposium on "The Modern Treatment of Infected Wounds," will be presented by leading surgeons. Railway surgeons, attorneys and officials and all members of the medical profession are cordially invited to attend.

Dr. J. S. Hill, Bellows Falls, Vt., is presi-

dent, and Dr. George Chaffee, Binghamton, N. Y., corresponding secretary.

Government Wants Workers in Venereal Disease Campaign.

The recently created Interdepartmental Social Hygiene Board of the United States Government is in need of a number of specially trained men and women to complete its organization. The United States Civil Service Commission has announced examinations for the following positions: Chief of division for scientific research, $3,500 to $4,500 a year; chief of division for educational research and development, $3,500 to $4,500 a year; educational assistant, $2,800 to $3,600 a year; chief of division of relations with States, $3,500 to $4,500 a year; chief of division of records, information and planning, $3,500 to $4,500 a year; supervising assistant and inspector, $2,800 to $3,600 a year; field agent, $1,800 to $3,000 a year. All positions are open to both men and women.

Applicants will not be given scholastic tests in an examination room but will be rated upon their education, experience, and writings. Published writings of which the applicant is the author will be submitted with the application. For most of the positions a thesis on one of a number of given subjects will be accepted in lieu of published writings. The receipt of applications will close on November 4. Detailed information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board at the postoffice or customhouse in any of 3,000 cities.

The law creating the Interdepartmental Social Hygiene Board provides for the cooperation of the War and Navy Departments and the Public Health Service of the Treasury Department for the prevention, control, and treatment of venereal diseases. The duties of the Board as set forth in the act are: (1) to recommend rules and regulations for the expenditure of moneys allotted to States for the use of their respective boards or departments of health in the prevention, control and treatment of venereal diseases; (2) to select universities, colleges, or other suitable institutions which shall receive allotments for scientific research for the purpose of discovering more effective medical measures for the prevention and treatment of venereal diseases; (3) to recommend such general measures as will promote correlation and efficiency in carrying out the purposes of the act; and (4) to direct the expenditure of certain moneys appropriated by the act.

The Roanoke Academy of Medicine,

At a called meeting in September, elected Drs. I. E. Huff, Roanoke, and G. A. L. Kolmer, Salem, as delegates to represent the Academy at the annual meeting of the Medical Society of Virginia in this city, October 28-31. Drs. E. P. Tompkins, Roanoke, and R. H. Garthright, Vinton, were elected alternates.

Obituary Record.

Dr Orville McLeod Smith,

Palmyra, Va., died at his home at Palmyra, Va., September 16, after an illness of several months with chronic stomach trouble. He was fifty-one years of age and was a graduate of the Medical College of Virginia. His wife and several children survive him.

Dr. Dabney Minor,

Formerly of this State, died at his home in Cleveland, Tenn., September 22. He was thirty-two years of age and a graduate in medicine from Vanderbilt University, Nashville, in 1910. He had only recently returned from overseas, where he served with the American Expeditionary forces. His wife and a daughter survive him.

Dr. Samuel DeLancy Hicks,

Formerly of Norfolk, Va., but more recently of this city, died September 18, in Bethel, Conn., to which place he and his wife had motored for a visit to relatives. It is thought the exertion of driving his car overtaxed his heart, which had been giving him trouble for some time. He was fifty-six years of age. Dr. Hicks studied medicine in Germany, graduating from one of the universities in that country in 1884. The interment was made in this city.

DR. PAULUS A. IRVING

New President Medical Society of Virginia

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THE PROBLEMS OF PUBLIC HEALTH.*

How They Must Be Solved By the Doctor, By His Trained Associates, Intelligent Lay Assistance, and Through Organization.

By ENNION G. WILLIAMS M. D., Richmond, Va.
President, Medical Society of Virginia.

When I accepted the position of State Health Commissioner, it was with the distinct personal reservation that I would not serve on any committee of any society or association, or be an officer of such an organization if such services could possibly involve me in any controversy with the doctors of Virginia; for I appreciated at the outset, and this appreciation has become a conviction, that a health officer must work in harmony with the doctors of the district he serves, whether that district be a county or a state.

Notwithstanding this determination, I could not resist the temptation to accept the high honor which you tendered me two years ago. I did not feel that my unopposed nomination for the presidency of this great Society was meant to be a personal compliment, but I took it as an expression of cordial good-will toward and approval of the work of the State Board of Health. I took it as your tribute to the efficiency of the Board, and I accepted it as the highest compliment ever paid me. I was grateful to you for it, and my appreciation has grown.

I may say also that one moving cause inducing me to accept your presidency was the thought that this high compliment was an endorsement of the State Board of Health; and, although you honored the executive officer, I knew, and you knew, that the great work which has been done for public health in Virginia and the good results that have been so widely secured are primarily attributable to my splendid associates with whom I have been so fortunately connected. Furthermore, in honoring the Health Commissioner as a representative of the Board, it seemed to me that you were to an extent honoring yourselves, for no matter how able, how devoted, how earnest, how progressive a State Board of Health may be, it cannot secure adequate measure of efficiency stated in terms of life or death, of health or sickness, unless it has the cordial goodwill and hearty co-operation and active assistance of the medical profession with which it works.

We are used to hearing our profession described as the noblest of all, yet I venture to say that this is no exaggeration. What is public health work? Succinctly, it is the creation of conditions that tend to prevent the spread of disease. Now the doctor practicing curative medicine cannot profit pecuniarily by public health work. To the contrary, the more adequate this work may be, the less is his opportunity for practicing the profession, for gaining fees, and yet our legislative bodies have paid us the unique and paradoxical compliment of leaving almost exclusively to the doctors the work of preventing sickness. The State and the counties virtually leave to our profession the duty of devising ways and means to combat diseases, and expect the doctors, virtually without pay, to perform duties which, if successfully carried out, must result in a reduction of their means of livelihood.

The doctors understand this. Still we find practicing physicians everywhere taking the leading part in efforts to reduce sickness, in efforts to promote the general health of their people; so usual is this fine idealistic humanitarian attitude that it is the rarest exception to find a doctor who will not do his full measure in helping public health endeavors. It is, indeed, a curious anomaly that while the doctors are eager to improve and ramify the activities of the health department, State and local, so many of the general public are averse to expending money for such ends. Men of unusual intelligence along other lines seem to think that an appropriation for public health

*Presidental address before the Medical Society of Virginia at its fiftieth annual meeting in Richmond, October 28-31, 1919.

work is an assistance to the medical profession. We doctors know that this is absurd, that the more money wisely expended for public health, the less sickness there will be, and the less fees for the medical profession. To give a concrete illustration, a typical disease—typhoid fever. Here the most absolute co-operation between the doctors and the health department is a prime requisite. The doctor must diagnose the case promptly and report it; he must see that proper directions are given at the bedside of the patient to keep the infection from spreading; he recommends the prophylactic vaccine where there is danger of communication. Before the health board can institute effective preventive measures, it must have the doctor's diagnosis and the doctor's report, and it must rely upon the visiting physician for the bedside directions, where the greatest care is necessary, and where the doctor alone has control over opportunities for prevention.

Let us see what has been accomplished in our fight against typhoid. The estimated number of cases the first year of the compaign, the period that ended October 1, 1909, was 14,398. Steadily this number has declined, and in even proportion the death rate has been reduced. For the year ending October 1, 1918, there were 4,016 cases, or a reduction in the annual total of 10,382. This shows a startling reduction of 72% in nine years.

I think I am safe in saying that of the average case of typhoid, which is a very conservative estimate, that doctors will make in fees at least $30. The gross income, therefore, lost to the doctors by this reduction in morbidity amounts annually to $311,460, based on the reduction of 10,382 cases. This is just about eight times the amount of the license tax which the General Assembly a few years ago so justly remitted. And I am sure that no man can claim that this action on the part of the Legislature was an excessive compensation, or an undue appreciation for the services rendered by the doctors to the people of the State.

I do not base my appeal for special consideration for the doctors on any claim for charity work, that is for unpaid work done for the individual (other professional men are no doubt proportionately as generons), but I do most emphatically claim that no other profession and no business works to take revenue away from itself such as doctors do so unselfishly when they aid in public health efforts; and I may say here parenthetically that this sum of more than three hundred thousand dollars in one year saved by the people, and taken from the doctors, is more than the total amount that was appropriated to the State Board of Health by the Legislature, except for its sanatoria, during that period of nine years.

Laymen of vision are now emulating the wise ones in our profession, and are taking far deeper interest in public health matters. They are viewing records of sickness and of death from economic angles and it may, therefore, be proper for me here to say something of Virginia's gain financially and economically as a result of this morbidity decrease.

Deaths in Virgina were not reported up to 1912, hence we cannot give the exact number prior to that time, but it is fair to assume that the average fatality rate prior to the date of strict reporting was the same as it has been since. Last year there were 416 deaths; if the ratio in 1908 was the same, there were 1,491 deaths—a saving per annum of 1,075 lives.

I have given the very modest estimate of $30.00 per case for doctors' fees. It is certainly within reason to assume that in time lost by patient and attendants, in expenses for medicine, nurses' fees and other incidentals, each case will cost $100, and it is certainly reasonable to assume that the economic value of human life, at the age when typhoid is most dangerous or fatal, is moderately estimated at $5,000, so that the saving of 1,075 lives—as of 1918 compared with 1909—at $5,000, which amounts to $5,375,000; and if we add to this the saving of $100 for expenses in each of 10,382 cases, we have $1,380,200, or for one year a gross economic saving to Virginia of $6,413,200. Do not these staggering figures justify the health work of the State? Do they not make you feel proud of your determining part in making this work effective? Are they not sufficient to make even the most callous layman take an interest in this highest form of humanitarian endeavor, even if he gauges only efforts for the public good by the standard of dollars and cents? Now please realize that this gigantic saving is an estimate for a single disease and for a single year. Most of the measures that we have taken to prevent typhoid will also prevent the other diseases of the same class—the filth-borne diseases. If we could only get the exact figures, they would doubtless show proportionate reductions, in dysentery, in infant mortality, and in the prevalence of intestinal parasites.

I know that what I shall here say may seem a startling statement, yet I am sure it is de-

fensible. I believe it in reason to guarantee that if the Legislature of Virginia would give for public health only 5% of the annual economic saving for typhoid, this disease would, in less time than it has taken to bring about the present reduction, be made to disappear from the State, and along with its wonderful realization would come the kindred boon, the elimination of the evil host of kindred diseases, all of which are due to the contamination with or the eating or drinking of human filth, and none of which have any excusable place in civilized communities.

Through all the years public health work and the individual efforts of the doctors have been so closely associated that they may justly have been regarded as virtually coordinate. Having technical knowledge of diseases and their necessary treatments, having attended the older schools, inculcating this information, doctors have been regarded not merely as the principal pioneers in health work, but as the sole arbiters of measures to prevent sickness. But recently preventive medicine has been revolutionized. What had been unknown and mysterious is now plain and easily comprehensible. Where public health work had been primarily the *care of epidemics* it is now the prevention of epidemics.

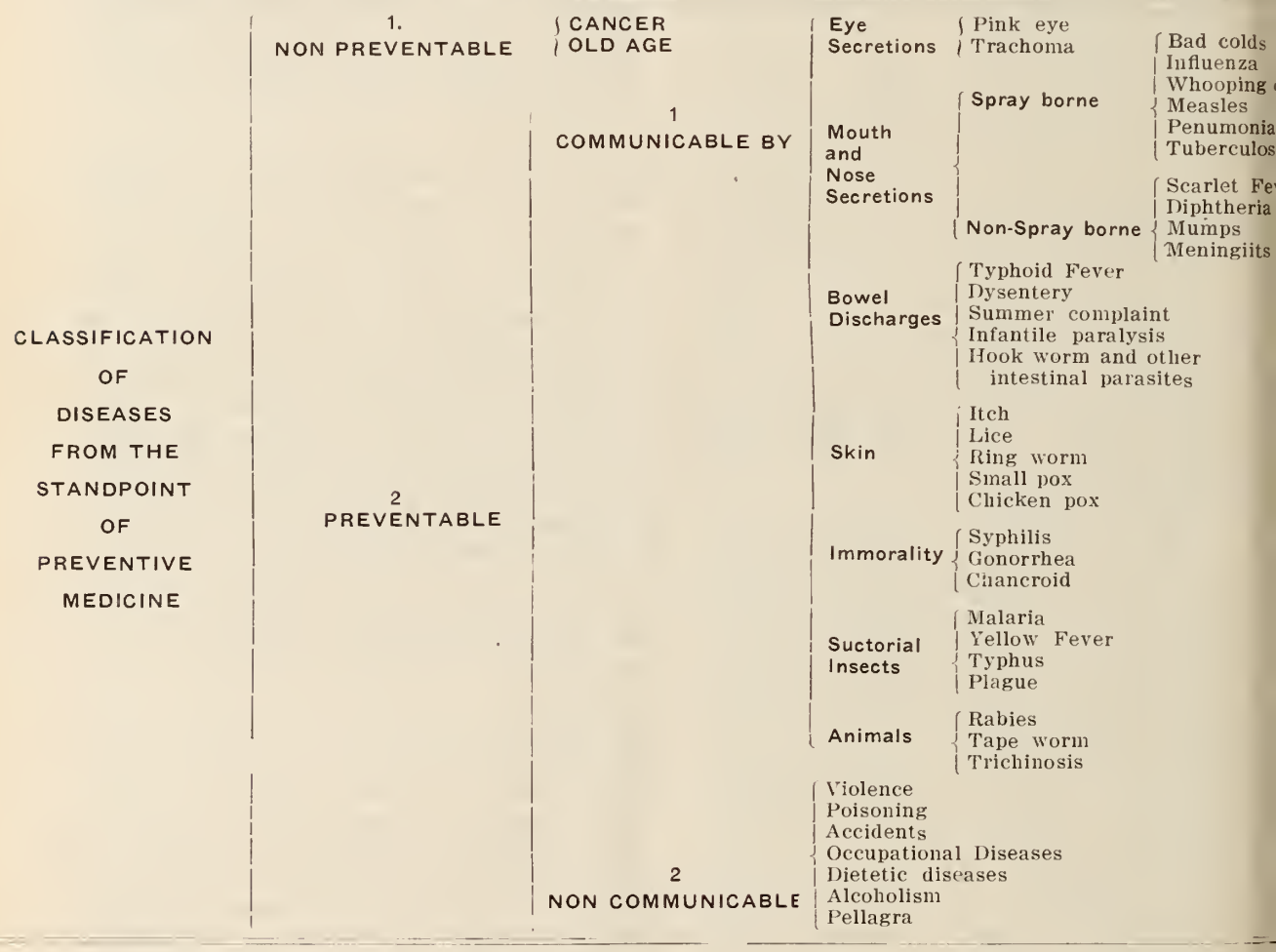
It is undeniably true that preventive medicine has not reached its highest development, but it has made wonderful strides towards that pinnacle. Much is left for discovery, but incalculably more has been discovered, and it is not improper for me to say that the practice of prevention lags far behind our knowledge. This is not an inexcusable indictment; there are definite explanations. Rarely in bygone years were health officers supposed to devote more than a fraction of their time to health work, and even now there are far too many communities with part-time health officers or voluntary aids. Preventive medicine is decidedly a modern development, and unless the health officers are adequately compensated, unless they devote all of their time, their brains, their energies, their application to their work, preventive medicine will not vie with curative medicine for popular and scientific recognition.

The curative practitioner knows that his success financially or otherwise depends upon his acquiring and utilizing the best and latest knowledge of his profession, so he is eager to use all that science has unfolded. He studies constantly, he applies himself diligently to digesting and analyzing the latest discoveries of methods and practice; he keeps himself up to the minute with all that his profession is doing everywhere. His patients gauge him by results, and he knows that his success or his failure depends upon himself alone. To the contrary, the practitioner of preventive medicine is a public servant subject to public whim and political caprice, is limited in his field of action by legislative bodies composed largely, if not entirely, of laymen, and they naturally wait for the people to be educated as to the value of prevention before they are willing to hazard public funds in what may be an unpopular, though worthy, cause.

It is indeed most fortunate that what science has revealed to us regarding the prevention of disease is so elementary and simple that few of its facts are beyond the immediate comprehension of the average intelligent layman. In this good fortune there lies the great hope of the future, since it is certain that when the laymen generally understand not only the causes of most diseases, but their ease of prevention, that money in fair measure will be appropriated for these endeavors, that public health will take its due rank in the public eye, and that the practitioners of preventive medicine will be as eager in the pursuit of their profession as are the doctors now engaged in strictly curative lines. I wish at this point to call attention to a chart evolved at our office showing a classification of diseases from the standpoint of preventive medicine.

There are, of course, many exceptions which the trained physician will recognize. This illustrates the main lines of communication in such a way as to be readily comprehensible by the layman, and it gives to him a key to a large symposium of preventive measures. It contains no new knowledge. The main virtue in the chart is that it exemplifies the ease with which transmission of disease can be explained without technical terms, and in a simple direct way. It gives, at sight, the classification of a multitude of wonderful scientific discoveries made during recent years in the field of bacteriology, and it is surely interesting to note that these revelations of modern science are but elaborations of original instincts implanted at the creation, and subsequently taught three thousand years ago by the first great health officer, Moses. The chart deals only with that side of health work that concerns disease prevention. There is a reverse.

Health promotion is no less important. The best seed will not yield in poor soil—the crop is a result of the two—and the human crop depends upon building up the good and curing the bad. My reason for taking your time for explanation of the chart is to illustrate as briefly as I may the lines of health work which might be permanently reserved for the doctors, and those which can easily be pursued by laymen who should be induced to take in health work an interest limited only by their abilities and opportunities.



Let us look at the group of diseases that are transmitted by the secretions from the mouth and nose. The most competent, aggressive, intelligent, indefatigable health officer cannot keep people from putting infected articles in their mouths, or prevent them from coughing or sneezing indiscriminately. These diseases can only be controlled through the creation of better personal habits. Habits can be taught in the home or in the school, through lectures, through the newspapers, in a word, through intelligent publicity, suited to the individual or groups of individuals. The health officer can fumigate premises or disinfect after a case is cured: but the sick or clinical cases that can be quarantined are but a small fraction of those that carry the infectious germ. We know that in both diphtheria and scarlet fever there are many mild unrecognized cases, and even apparently healthy carriers who are a source of existing danger. So we face the impossibilty of controlling these diseases through quarantine or disinfection; and the practical way is to consider any one as a possible carrier and make a habit of avoiding whatever would make for the transmission of these secretions. In a word, the surest and safest, and possibly the only way, of preventing these diseases is for the health officer to educate the people and make them understand that actual

prevention lies within their power and safety in their hands. In the group of diseases known as "filth-borne," prevention depends upon the construction and utilization of proper arrangements for the disposal of human filth. The installation of these arrangements does not require the services of a doctor, but of a carpenter. The utilization again needs no doctor, but a sanitary inspector; and in connection with a carpenter and an inspector, there may be needed an engineer, who is also far more potent in the prevention of malaria than is a physician. It is most fortunate that doctors are not essential for the development of public health activities. If they were, the shortage of doctors in Virginia would be even a greater misfortune than at present.

The scarcity of doctors is a natural result of the evolution in medical education. Less than thirty years ago a doctor's degree was given after a one year course, with virtually no preliminary requisites. Until recently only two years' study in a medical college was required, now the minimum requirement for a medical course leading to a degree is four years, with two years in college, and four years in high school as a preliminary requisite.

So the cost of education has mounted considerably. Naturally these requirements insure far better equipment for the young doctor and promise a more efficient physician, but unfortunately these requirements curtail the supply, and many communities will in future have to do without a resident physician. This is particularly true of the small communities and the rural sections, for the modern graduate after his expensive education and years of study, does not feel that he can afford to settle in a small town or rural section without medical aids and facilities for improvement, such as the hospitals and laboratories of the larger cities afford.

I am not unduly pessimistic over the situation, however, for I believe that in some way the problem will be solved. If the people must have the doctors they will pay the cost, and they will get the services. If there is a sufficiently strong demand there will be an equivalent supply, but for the present at least there is a shortage, and this condition not only gives to public health work a wonderful opportunity, but it imposes upon the public health service an obligation which we cannot, if we would, evade.

To solve the problem created by the shortage of doctors we are using in public health work these engineers, inspectors, carpenters, and other trained men, we are calling more and more upon the nursing profession, and are equipping young women for school, community and public nursing; but I am rather inclined to believe that we are overlooking one most promising element in strength.

We need not only such an organization as we have in the State Medical Society, but there should be a local association in every section of the State. There are throughout this country any number of local medical associations so operated as to be virtually a post-graduate course. There was a time when medicine was regarded as an art. It is becoming more and more a science. Within the span of our generation more has been learned about the human body and its diseases than had been learned during the whole history of the world prior to our day. We have seen the course of medical study lengthened from one year to four years. Medical knowledge is constantly growing. To keep up with this development, to discuss intelligently modern discoveries and changes in practice, local societies are essential.

We must remember that some of the greatest discoveries in modern times have been made by country practitioners. Edward Jenner was a country practitioner when he discovered vaccination. Robert Koch practiced in a small village when he announced his epoch-making discovery of the anthrax germs, which paved the way for the discovery of the germs of tuberculosis, cholera and others. The country practitioner has to be more resourceful and has to do his own thinking to a greater extent than his city colleague, but the knowledge gained from his experience should be conserved for the general good and the profession should get the benefit of it. This object can best be attained through local societies, which profit by discoveries and improvements of others, giving in exchange, for the benefit of humanity, a record of their own acomplishments.

The medical men need the local organizations to aid in solving the many problems that are now arising as the result of the evolution and the rapid development that is taking place in medicine. Such questions that need to be solved by these discussions are the provisions for the supplying of rural sections with medical service, resulting from the growing shortage of doctors; the development of laboratory and hospital facilities for those away from the large cities; the supplying of adequate nurs-

ing facilities resulting from the increasing shortage of nurses; the steadily increasing requirements for medical education; the relationship of public health work; the approach of State Medicine that has started in England and health insurance that has been established in some sections of this country. These questions and many others need the serious thought of doctors, as they will sooner or later affect them individually.

Furthermore, I would mention as a great by-product of medical societies the good will and harmony resulting from the personal contact. A doctor too often leads a life isolated from his neighboring colleagues. Unfortunate personal relations arise by reason of their lack of talking things over, and opinions formed by result of inaccurate gossip of tale bearers. These differences would disappear, cordial and harmonious relations would result from the face-to-face and personal contact with each other in the local societies. Life is too short to harbor ill will, if there is a possibility of straightening out the differences, which may be imaginary and not real. Local organizations are surely worth while, if they only promote harmony, and not the main objects that they will most surely accomplish.

Virtually every town of any size in Virginia, certainly every city of the State, some of the counties, have their business or professional associations, particularly business associations, chambers of commerce, boards of trade, wholesalers' or jobbers' associations, retail associations and the like. There is no State Chamber of Commerce in Virginia, but there is a State Retail Merchants' Association, and a Southern Wholesale Dry Goods Association, and doubtless many others of like or similar scope. In every line, local organizations are zealously and tenderly fostered. We have some strong county medical associations, but they are few. We have many counties that have made no attempt to have an organization, and some which have organized and then allowed their organizations to lapse. This is most unfortunate. We have an excellent State Society, but we should endeavor to create local interest, to induce organizations everywhere throughout the State to become associated with the State Society. I believe we should have some definite method of communicating with these local associations, supplying them with topics of interest for discussions at their regular meetings, and with information that will be helpful to the organizations as a whole and to the individual members of the organizations. I believe that if we can make the local organizations realize that they have a definite place in the State medical work, that they have a definite duty to the local members of their profession, that they can gain in knowledge and in power by such associations and through such associations with the parent State body, we will have in every county in Virginia the doctors well organized and the result will be a State medical profession of which Virginia will be justifiably and intensely proud. Independence may be possible, but its lofty eminence leaves us very lonesome. Dependence is to be deplored, but interdependence is a necessity for modern life, a just appreciation of mutual obligations and a firm purpose to help and take help. In line with this thought, I may quote a brief stanza from Kipling:

"It ain't the guns and armament, or the tunes the bands can play,
But it's close cooperation that makes us win the day.
It ain't the individual, nor the army as a whole,
But the everlastin' team work of every bloomin' soul."

THE SCIENCE AND PRACTICE OF INTERNAL MEDICINE.*

By HENRY A. CHRISTIAN, M. D., Boston, Mass.
Hersey Professor of Theory and Practice of Physic, Harvard University; Physician-in Chief, Peter Bent Brigham Hospital, Boston.

The last decade has wrought great changes in medicine, perhaps in no field as much as in Internal Medicine and Preventive Medicine. Of the achievements of the latter I find there is more general appreciation than of the former, which, in a way, might seem curious since internal medicine touches every practitioner in his daily work. However, the explanation lies, I think, in the fact that preventive medicine has played a part in national and international problems, policies, and accomplishments, such as the building of the Panama Canal, and for this reason has been published to the public through the press while the achievements of internal medicine, less dramatic in a large sense, have escaped such notice, and so have not been so impressed on the busy practitioner. This being the situation, I am going to present to you a few observations on what we may term the science and practice of internal medicine of today. In doing so I will neglect preventive medicine, but in no discriminating sense

*Paper by invited guest, read at fiftieth annual meeting of the Medical Society of Virginia, in Richmond, October 28-31, 1919.

against it, for we all realize its importance and acknowledge its achievements.

Internal medicine is not a very satisfactory term, but it seems the best that our language offers. By it we mean medicine in contrast to surgery and the several specialties. *Medicine* is a better term, but it is needed in an inclusive sense to designate the entire subject. In the beginning there was medicine, and gradually there has been split off from it all of the many subjects of the present-day curriculum. As late as the founding of the Harvard Medical School in 1782 there were but three chairs—anatomy and surgery, chemistry, and the theory and practice of physic. Anatomy, surgery and chemistry in 1782 were anatomy, surgery and chemistry in the limitations of their field much as today. My predecessor, Benjamin Waterhouse, first Professor of the Theory and Practice of Physic at Harvard, taught all the rest of medicine. Wisely since then many subjects have been separated from the Department of Medicine until now there remains internal medicine including applied therapeutics; quite enough, however, to make busy the days of the members of the Department.

The older internal medicine was founded on pathological anatomy. The autopsy table revealed the organic changes in the body that resulted from disease; it showed destruction and crude repair in most instances. Naturally this tended to create the idea of the hopelessness of curative measures, and led to therapeutic nihilism that decreased the interest of the practical student of medicine. In the last few decades a great storehouse of knowledge has been opened as to the causes of disease and as to the function of body organs. Medicine is no longer solely a structural science: the etiological and functional conception of disease dominates: today diagnosis and treatment in internal medicine are founded on an understanding of etiology and function in relation to structure, not on structure alone. What the engineer calls the factor of safety makes possible a continuance of satisfactory function, when the processes are well guided by the internist, even though structural injury has taken place. Knowledge of causes makes possible the prevention of lesions, or their stoppage at the stage in which they come to light. Function deranged in one organ often may be replaced by the bringing into activity of latent function in another. An understanding of the body in this sense is fundamental to the science and practice of internal medicine.

Do there lie in this field problems to stir the interest of the practitioner and the student of medicine? Is there newer knowledge to change the active practitioner back again into the student? Are there not things upon which all, by observing and studying in their daily work, may help to throw light? Most assuredly, "yes".

The student in the medical school in his attitude toward his work is often a good barometer to the graduate of the changes in the science and practice of medicine. How is the student in the better schools of today thinking as to his work? Twenty years ago I moved to Boston, a fresh graduate from the one school in this country in which medicine, not surgery, interested the majority of the students, including the larger proportion of the high-stand men. In Boston I found the opposite condition; the best students were, as a rule, embryo surgeons; competition was keenest for hospital posts on the surgical service; with few exceptions the medical service got the less desirable and to the specialties went the left-overs. Now the pendulum has swung; the keenest students, with few exceptions, choose medicine; surgery takes the less desirable. The high-stand men usually compete for medical posts. Why the change? Because, rightly or wrongly, there is something in internal medicine that appeals to the mind of the bright student. As a keen-minded hospital superintendent, after many years' observation of medical students and staff members in the hospital, recently put it in conversation with me, the future problems seem to be more in internal medicine and preventive medicine. The two are closely interwoven, but as yet the career in preventive medicine is still largely in board of health work and much involved in politics; consequently today's appeal is in internal medicine. These seem to be the facts.

Although an internist myself, I am not fully satisfied with the situation. Unfortunately, the field of internal medicine, by reason of the opportunities it offers, is attracting away from the fundamental branches of the medical curriculum the material for able assistants, and this necessarily must react to bring deterioration in the next generation of chiefs of such departments as physiology, pharmacology, pathology, etc., without whose investigations advance in internal medicine will be greatly

slowed, if not stopped. However, the fact that today the best students think that the most attractive field for work lies in internal medicine is food for thought for the graduate now practicing.

As the practicing physician returns now to school or hospital after, let us say, 20 years of active practice, what strikes him perhaps most is the large number of laboratory reports that are made on patients. Very likely he is confused and feels hopelessly lost in this mass of detail, with strange sounding terms and puzzling figures. However, the matter is far less complex than at first glance seems the case. The school and hospital rightly are trying out several new methods with the view of finding the best and most satisfactory one. The practitioner gradually can clear from this maze a relatively few simple ways of testing certain functions that for the time, at least, are adequate. A brief stay in such a center pretty quickly shows the visitor that certain laboratory procedures have a daily practical application in the diagnosis and treatment of the patient, while many are regarded as of investigative usefulness, are parts of a study from which may come better methods, but which, for the present, cannot be said to have much really practical usefulness. It is these relatively few, rather simple methods that the practitioner needs to learn to apply to his patients. But he should remember that it is likely that they will be improved upon or new ones of greater value added. Consequently, it behooves him to return from time to time to keep in touch with progress, to find out what is worth while to him. Contact with teachers and clinic heads is by far the best way for the practitioner to get what he wants, provided he uses his own good judgment in eliminating contact with that type that seeks to impress his great knowledge by referring to all the latest inventions, but never gives his personal opinion as to what in the mass is really worth while.

There is another side to laboratory procedures that I fancy the practitioner and investigator both often overlook, and that is that the one prime aim of elaborate laboratory processes is to discover facts as to etiology, structure and function, which henceforth may be applied so as to do away with the elaborate procedure and replace it by something so simple that it becomes available to every practitioner. Let me cite a few illustrative examples. A decade or so ago the blood pressure apparatus was complex and bulky; today a pocket package of an aneroid gauge, a rubber arm cuff and a little tubing give, with a stethoscope, the best available measures of systolic, diastolic and pulse pressures, a simple device that every practitioner may use. In the hospital you see in use a polygraph, difficult of adjustment, or an electrocardiograph that costs $2,000; those of us who have been using these know that their prime value has been to teach us of cardiac irregularities until we can, with finger, stethoscope and common sense, recognize the type of arrhythmia in almost all of the patients, and apply this knowledge in their management. Today, in practice, you do not need such elaborate means of cardiac study; you can go somewhere and learn the underlying principles of cardiac irregularity by studying and working with the machines, and go home and apply the knowledge without using the machine. These may serve as examples. Mind me, I am not minimizing the value of any method of accurate observation in our patients, however complex or costly. They are worth applying as part of investigation so long as they yield us new facts; they are worth using in practice so long as they give us information that is helpful and not otherwise obtainable; their greatest value is when they have taught us things that we can subsequently find out and apply by very simple means.

Laboratory methods have introduced many new terms. Do not be frightened away by this. After all, it takes but a short time to become familiar with the useful parts of them. Then, in describing the results of laboratory procedure, confusion is more apparent than real. I remember how utterly at sea I felt at a meeting after hearing several papers on cardiac irregularity with "a" waves and "v" waves and "c" waves and strange sounding terms. I had no conception what it was all about. Then, thinking I would learn, I read a printed paper in a recent journal. This left me very dejected, because I could get little or nothing out of it. I had started wrongly. I needed to go back to the beginning. After reading Thomas Lewis' two little books on the subject, each about 100 pages long, coarse print with many pictures, I had some idea what it was all about, but I was not very intelligent as yet on the matter. About that time our hospital bought an electrocardiograph. I decided I would install it, which I did, following the directions that came with it. When I got it set up, I

began to use it on patients and to study out the records with no more book knowledge than that found in Lewis' little books. Soon the matter was simple enough. I understood the subject. This illustrates how I think you should proceed in regard to new methods. Learn them; often this requires a visit to some center for instruction. Next, apply them to your own patients and think. Finally, read the current literature on the subject. This is the method of the science of internal medicine.

Now that brings me to another side of the question; many of these methods become so simple that they can be easily learned and readily applied to patients. This being the case, there is no reason why any practitioner may not become a contributing observer to medical science, as to changes in disease and, what is vastly important today, as to what is really accomplished by methods of treatment. You general practitioners have one great advantage over us in medical schools and hospitals, namely, you see the beginnings of disease; you can study early stages and follow the progress of the condition through days and weeks and years, testing the effects of drugs and hygiene and diet. More accurate notes of your patients, more methods of observing them necessarily will yield facts of value. This is one reason why internal medicine is so attractive; there is so much to learn, and every practitioner can help in the advance; in other words, become an investigator.

In this connection, I like to think of my colleague in editing a new system of medicine, Sir James Mackenzie, as a country practitioner in the north of England studying his cardiac cases for twenty years or more with instruments of his own devising and, from his observations in general practice, adding more to our knowledge of heart disease and its treatment than came in the same period from the great hospitals and laboratories of the world. There is no reason why other practitioners may not accomplish similar results, anyhow add to their knowledge, and at the same time bring into their daily work that vivifying influence that comes from feeling one's self to be something of an explorer.

As I travel about and talk with doctors, two things impress me greatly. First, that the traveling agents of pharmaceutical houses largely influence his treatment; second, that he inclines to think that an elaborate laboratory report on his patient made by some one other than himself is the most valuable data he can obtain of his patient to show to the consultant when he refers him to the hospital.

Why on earth the doctor should place such faith in the drug agent can only be because it is such an easy way, and because it sounds so up-to-date to be using the *latest remedy*. Why not use your own critical judgment in reading the drug literature? It is not hard to separate fact from fancy. Then, if the remedy seems worth while, why not try it and carefully observe for yourself what happens? Note I say CAREFULLY OBSERVE; that means carefully to study your patients' symptoms and physical signs, and to record the changes found. When you do this, you are not only practicing internal medicine in the best way, but you are an investigator of a medical problem. In internal medicine your patients' symptoms, history, and the results of physical examination remain the factors of greatest import, and of these you can each and all become observers. After all, the significance of symptoms, especially in the beginnings of disease, and the effects of treatment, remain very important, if not the most important, problems for investigation in internal medicine. Once the physicians of the country begin to do this a lot of the slush of the pharmaceutical house would disappear, and the best of remedies rather than those most profitable to manufacture would come into use.

It seems to me that the digitalis group is a very good example of what should not be in our relations to drug preparations and their use. Much effort has been expended in devising better preparations of digitalis; certainly vast sums are expended in exploiting them. This is largely because the practitioners have not observed carefully the results on their patients and thought about possible reasons for their failure. First of all, most men give smaller doses than they should to obtain effects. Actually less than the minimal therapeutic dose is often prescribed. This comes in large part from the habit of using the tincture and giving it in drop doses. There is no criticism to be made on using the tincture; the fault comes in taking a minim as being a drop, when really it takes a little more than two drops to make a minim. Far better to have your patient actually measure the digitalis, as is done with other drugs.

Next, the digitalis you use is very commonly below standard pharmacopeal strength. Most

doctors seem to assume that what the druggist sells is what it should be as to strength. Why not think of this possibility? Digitalis should produce certain effects in a cardiac case; when the effect does not come, why not say, "Perhaps it is because the drug is weak, and if so, I will find out by trying a bigger dose. If a half teaspoonful of the tincture does not produce the desired effect, I will give a teaspoonful dose. If that gives no effect, I will get another sample of the drug and try it." Unfortunately, much of the digitalis on the market is weak, i. e., below pharmacopeal strength, and many of the standardized forms of digitalis, though expensive, are not up to their advertised efficiency. Fortunately, digitalis is a drug which can be used in simple form; it needs but little ministration from the pharmacist. If the leaves are poor, the pharmacist cannot make them potent; if they are strong, all he needs to do is to grind them up. For a number of years now I have myself used the powdered leaf made, at frequent intervals, into a pill with a simple pill vehicle; I have had reason to use no other type of digitalis, and I get digitalis effects from this that are perfectly satisfactory. Tincture or infusion, if potent, will do the same, but no better, no worse. I cannot see that there is much excuse for poor digitalis being on the market, for good leaves grow all around us. Personally, I have used excellent digitalis grown in Washington, Wisconsin, Minnesota, and here in your own State, Virginia.

The point with digitalis is this: If you do not get digitalis effects, blame your dosage or blame your leaf. You are using too little, or what you use is too weak in most instances. The way to have good digitalis is to use in your practice digitalis from one druggist who dispenses from the same supply, after you have tried it in a suitable patient and find that it gives a good digitalis effect. Obviously, I assume that you know what action digitalis should have and that you observe your patient to see when it comes, and then stop your dose or decrease it before toxic effects develop.

After all, it is extremely rare for digitalis to harm a patient, even in large doses. There is a quite unjustified fear among practitioners of the dangers of digitalis. I myself have never seen harm come to a patient from too much digitalis. The simple precaution which I have taken is to stop digitalis when it produces a manifest effect, such as nausea, diuresis, slowing of pulse, and then go on with smaller doses if a continued effect is needed. On the contrary, I have seen many patients suffer because of too little digitalis. I have never found it necessary to use other of the digitalis group except occasionally strophanthin intravenously. I see no place for tincture of strophanthus; its absorption is so irregular that its action is necessarily uncertain. I do not seem to need fat free tinctures of digitalis, or digifoline or digipuratum or digalen. All of these I have used to find out their effects; samples of all I have found good, and others I have found below claimed efficiency, but I have no reason to change from the simplest and least expensive form of digitalis—powdered leaves.

If you general practitioners would use digitalis as I have indicated above and do the same with other drugs, observing carefully their effects in your own patients, in whom you know their condition, you will help much in the advance of internal medicine.

As to laboratory procedures, I have already referred to some features. I wonder how often you stop to think how much of the laboratory report you really make use of, after you get it, and next, whether the parts you fail to use are not used because you do not understand how to apply them or because they are really of no use. As I see them, when your patients come to the hospital for observation and study, it seems to me the fault is largely in the reports containing a large amount of useless information. Let us take as an example a urine analysis. What I get is one or two large sheets containing such data as amount and percentage of NaCl, urea, uric acid, phosphates, etc., color, reaction, specific gravity amount of albumin, indican, etc., crystals, casts, cells, etc., bacteria. Much of this is useless. Careful quantitation of output in absence of accurate knowledge of intake can have no value. The report represents work and it costs the patient a considerable sum, but of how much more value would it have been to have had frequent figures over a considerable period of time of total urine output in relation to fluid intake, measurements the patient can make, and specific gravity determinations and frequent rough quantitations of albumin, such as the physician can make with his eye, judging the density of the ring formed with nitric acid, and fairly frequent notes as to casts, leucocytes and red blood corpuscles. If this is supplemented by careful notes on common sense observations of the patient, you have at hand valuable data as a basis of judgment as to the patient's condition.

The general practitioner is not the only one who errs in the unnecessary elaborateness of detail of investigation. Some consultants pile examination on examination, usually running the patient around to a group of various specialists in an equally useless and, for the patient, unprofitable way.

The science and practice of internal medicine consists in observation made in numerous ways; the observations are valuable in proportion as they are carefully made. Good judgment and common sense, along with as thorough a knowledge as possible of the subject matter of medicine are needed to indicate how many and what sort of special examinations are needed; in simple cases, relatively few; in complicated cases, many. As I see the work of the medical man, more mistakes come from not looking than from not seeing. What opinion can you have of the regular daily methods of the practitioner who sends his patient to the consultant with a laboratory report but with no history and physical examination, and the patient tells you, "Why, the doctor never undressed and examined me"? This I have encountered more than once, but that is not internal medicine; rather it is surface or superficial medicine. That sort of a man, unless he changes his methods, will never learn; rather, the older he grows the less he will know.

A very valuable method of instruction for the physician is being less and less utilized. I refer to the post-mortem examination. At present in the United States the autopsy is becoming increasingly infrequent in even excellent hospitals, and is very rare in private practice. Many of our forefathers became keen diagnosticians by reason of the knowledge acquired at the post-mortem table. Functional study has by no means lessened the value of the autopsy. Our students are graduated with ample training that would make it possible for them to acquire much knowedge from autopsies they might make themselves. Did our practitioners follow the custom of obtaining autopsies whenever possible and being present at them or actually doing them, they would acquire much helpful knowledge, and especially would they learn the limitations of their diagnostic methods and be stimulated to improve them. For example, you overlook pneumonias in your practice because, without autopsy check, you never have found out how, under certain circumstances, relatively slight physical signs point to an extensive pneumonia. All of us who studied patients in last year's influenza epidemic and followed them to autopsy, if they died, learned this. Again, you continue to diagnose organic mitral insufficiency on the basis of a systolic murmur when an autopsy in some of your patients dying, let us say, of pneumonia or typhoid, would have shown you that you were wrong in your cardiac diagnosis, for the patient's heart was normal. Why not learn these things for yourself by taking every opportunity for observation and then checking up whenever possible by post-mortem study?

That brings me to my final point: how is the practitioner to improve his knowledge? First, he needs to study his cases, and after study, to commit himself in writing to a diagnosis, prognosis and outline of treatment. Second, he needs to read medicine, books and journals, in connection with his cases; it is most surprising how much a daily half-hour spent with a few books and journals will widen his knowledge. Third, he needs to check up his diagnosis by therapeutic tests, by presence at operation and by post-mortem in his fatal cases. These means prevent repeated errors of diagnosis going unchecked until one comes to feel himself infallible. Fourth, he needs to attend medical meetings and be a receptive listener. Fifth, he needs a periodic visit to a medical center for some regular course or to walk the wards with some good man. Of all of these, perhaps to study well your own cases and to do your own thinking is of primal importance. I have the feeling that the man who does these will do the others as a matter of course, while he who does not, will profit relatively little from the others if he does do them.

I believe that internal medicine has a bright future, and that every earnest practitioner not only can share in it, but actually contribute something of value to it. All that is needed is a little effort on the part of every one.

SEMI-CENTENNIAL HISTORY OF THE MEDICAL SOCIETY OF VIRGINIA.*

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To recur to the past and review the events that have transpired in history, if pondered in the right spirit, cannot fail to be profitable. The attitudes of youth and age are the antithesis, the one of the other; in the former all

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is hope, ambition to be gratified, success to be attained. The sun, as it climbs toward the meridian of life, throws a glorious halo over the coming years. Expectation of work to be accomplished and happiness to result therefrom take possession of the whole being, and stimulate to earnest efforts. When the meridian is passed and we start downhill, when the shadows lengthen and perchance the goal has been reached, our memories become busy with the events of the past; we seek to live over the fresher days of our manhood as we pass in review the events of life, the familiar faces of friends who have been the actors on its stage come before the mind's eye; often we thrill with pleasure as we live over these scenes; or the eyes moisten with unshed tears as some long-forgotten event filled with pathos and sorrow comes before us.

In reviewing the history of the Medical Society of Virginia,

> "I feel like one
> Who treads alone
> Some banquet hall deserted,
> Whose lights are fled,
> Whose garlands dead,
> And all but him departed."

This is almost literally so. When on November 2, 1870, the Convention, comprised of members of the profession of Richmond, Lynchburg and Abingdon, assembled in the chemical lecture room of the Medical College of Virginia, in this city, to organize this Society, ninety-two fellows registered. Of these only three of us, Dr. Junius Powell, Surgeon, U. S. A., resigned in 1875; Dr. E. J. Moseley, and I are left, and I am the sole link between this meeting and the past in continous membership, Dr. Moseley having once resigned and rejoined. The years that have passed since this Society came into being have been full of advances in the science of medicine, and the work of its members has been earnest, painstaking and fruitful of results. They have seen the enactment of the Anatomical law, establishment of the Medical Examining Board, and the development of Health Boards, both State and local, and it took hard, laborious and persevering work to accomplish this.

The work of preventive medicine has established control in all infectious diseases, diminished mortality, and is hopefully working along lines for the prevention and cure of tuberculosis.

The early organization of this Society saw established a systematic method for reports on advances in every department of medicine each year. Such well-known helps to diagnosis as the thermometer, the hypodermic syringe in therapy, the discovery and perfection of asepsis and antisepsis, the adding to materia medica of many useful remedies, the discovry of many antitoxins, and an entire change of view as to the causation of disease and pathology, have wrought miracles within these fifty years of this Society's life. And those who have made up its membership have all been earnest workers.

The introduction of Listerism, though very faulty, was the pioneer for development of almost perfect asepsis of today, making possible the brilliant and life-saving methods of modern surgery. The improved methods of obstetric management, and more advanced knowledge of chemistry and physiology, have very materially advanced the successful treatment of internal diseases. Nor is the valuable work of the bacteriologist in the development of a rational causation of diseases to be forgotten. The microscope has opened wide, interesting fields, and solved problems heretofore misunderstood. Truly, in no period of the history of medicine have such wonderful strides been made in development of life-saving means, and the reduction of mortality rates has been so great as to seem almost miraculous.

The men of whom I shall speak have been no laggards in this forward movement of progress. Hospitals and sanatoriums have immensely multiplied, and throughout the State are conducted by members of this Society, with results that will parallel the accomplishments of any others, no matter where else situated.

At the second annual session of the Society at Lynchburg, we find an act recommended for adoption by the State Legislature, establishing a State Board of Health. For years it struggled on, accomplishing little, but, by the persistent influence of this Society along educational lines, it has developed into the organization of today. No man can measure its beneficent work in the control of infectious diseases. It is controlling typhoid fever, malaria, diphtheria, etc., furnishing at a price within the means of all the antitoxins for diphtheria, tetanus and hydrophobia. On the low standard of money value, it is a priceless boon to the people of this State, and don't forget, it is the first-born offspring of the Medical Society of Virginia.

At the same meeting no uncertain expres-

sion was given on the subject of advertising, condemning circulars and other advertisements of specialties as contrary to the letter and spirit of our Code of Ethics, and, says the resolution, "should be discountenanced by all good men." Today—what? One does not have to go very far to ask, have we retrograded in this respect—has the standard been lowered—in these modern times, when the dollar is so mighty, has the taint of commercialism infected the body of the profession, and do men look at the great work from a different viewpoint? '

One of the acute subjects which agitated the Society in its early days was *Women Doctors*. Dr. Fauntleroy, in his Presidential Address at Staunton, its third meeting, quotes the lines of some then recent writer:

"She would blunder in physic no worse than the rest,
She could leave things to nature as well as the best;
She could feel at your wrist, she could finger your fee,
Then why should a woman not get a degree?"

An answer may be found in the experience of a traveling man sick at a hotel in Brazos, Texas. He went to bed and asked that a doctor be sent for, and when she came she had on a Gainsboro hat, elbow gloves, French heels, and otherwise dressed in the tip of fashion. The hat and gloves were removed and, seating herself by the bed, she asked to see the patient's tongue. "I wouldn't let you see a tongue like I have got, not for a quarter a look," he said. She felt his pulse; it went up to 200; she percussed his chest, and then proceeded to auscult it, with her face turned toward his. He remarked, "It is no use." He kissed her in the mouth, and told her to charge it in the bill. Comment:—"Fact is, I don't believe in women doctors, anyhow." In these latter days they have come to stay, and have their mission.

"They talk about a woman's sphere,
As though it had a limit;
There's not a place in earth or heaven,
There's not a task to mankind given,
There's not a blessing or a woe,
There's not a whisper, yes, or no,
There's not a life, or death, or birth,
That has a feather's weight of worth
Without a woman in it."

At the fourth annual session we find the question of the Medical Examining Board suggested for the first time, to be established several years later. An interesting discussion at the meeting in '73 was the causation of malaria. A letter from Chicago states that the writer has learned of the extensive prevalence of ague about Richmond, and wishes an ague plant sent him. What a contrast to the known causation of today through the agency of the mosquito!

The act of incorporation of the Society was approved January 14, 1874, being four years after its founding. At this same meeting of the Society is an earnest appeal from Dr. James L. Cabell for co-operation of the Society to obtain an appropriation to make the act establishing the State Board of Health efficient. At this day, our lawmakers seem more keenly alive to do everything that will preserve and conserve the health of all the people.

At the sixth session we find an interesting discussion on uterine supports, a prominent speaker being Dr. Marion Sims. The error in all the opinions then expressed in view of the progress and development of gynecology of the present day are almost comical. In reports of progress in gynecology much time is given to section of the cervix for the cure of dysmenorrhea, and freely quoted are Sims and Simpson and their compeers. Science of today long ago abandoned such crude procedures, both because of the ineffectiveness and risk. It shows how great men of that day were groping for the light.

The law for the better education of druggists originated with this Society. It is not necessary to point out to you the existing pharmacy board, and the good it is doing in this State.

As one of the subjects of progress, emanating from no less an authority than Gaillard Thomas, was the proposition of intravenous injection of milk as a substitute for transfusion of blood; I am not aware that it had much following; cases are reported, the operation was successful, BUT the patient died, like some cases of the present day. These intravenous injections of milk were recommended not only in cases of exhausting hemorrhage, but in typhoid fever, pneumonia, cholera, etc. In the discussion, Hutchinson of New York, suggested what we now know as normal salt solution; its usefulness in the experience of all is too well established to need further comment.

In the transactions of the tenth annual session is found a paper on "Diagnosis of Abscess of the Liver," by Dr. J. Marion Sims; also historical papers by Dr. Toner on the "Life and Character of Dr. James Craik and Dr. Dick," the friends and physicians of Washington, the latter being the consultant in his last illness. There was also a paper by Dr. H. P. C. Wilson on "Protective Device for

Use of Paquelin's Cautery in Operation on Uterine Cancer of the Cervix," with report of cases and reviews of treatment of that day, advocating at least one view of the present day—the importance of early operative interference.

In 1885 Dr. George Harrison read a paper before this Society on "Puerperal Septicaemia," bringing strongly and forcibly to the attention of the Society the infective nature of the trouble by infection from the outside. Observation since that time has confirmed his conclusion; but bacteriological research has classified them most decidedly by discovery of the infective germs causative of the trouble, and pointed out the serious results to be apprehended for the innocent wife by the reaping of the crop of wild oats sown by the husband in his bachelor days. Is there no response to the appeal to manhood, no sense of equal justice, of chivalry for the other sex, of high ideals of manhood, which should establish and enforce the single standard for every one, the outcome of which would be health, happiness, and a more virile race?

Dr. Harrison concluded his paper in these words: "I call upon you, one and all, to aid to the best of your ability in the noble task of protecting women from the risks that menace her at a time of her existence when the most touching and tender attribute of her sex —maternal love—is unfolding its tenderness and loveliness; and may we not hope that our efforts in this direction will command better and better success, and that our progress will be onward and upward, to cease only when the Sun of Righteousness, in undimmed luster, shall shine upon a world redeemed from the evils of sin and suffering." Amen; so may it be.

But time would fail me to continue in minute detail all that this Society has done in these fifty years. Deepest interest will develop if you wander through its transactions and note the development of our science, the able and earnest work of the men who have been its fellows: especially is prominent its high ideals, its lofty standard of ethical professional honor, and the devotion to the accomplishment of every end which has meant the relief or prevention of human suffering. Notable is the fact of the large number of distinguished men of the profession who have attended its meetings and been its honored guests and have become its Honorary Fellows.

A paper of this character would not be complete without a personal sketch of some of the men who have been conspicuous on the stage of its activities:

James B. McCaw, the presiding officer of the Convention which organized this Society, was a man of distinguished presence, magnetic and successful, and most charming as a conversationalist. He often made lighter the burden of the sufferer by his entertaining recital of anecdotes and events. To the younger members of the profession he was ever courteous and considerate. As chief surgeon of Chimborazo Hospital during the Civil War, as editor, teacher and practitioner, he has left his impress on the generation in which he lived.

Landon B. Edwards, with the exception of one year, was the honored secretary from its organization to his death. He had no deeper, profounder, earthly interest than the success and welfare of this Society. He labored for its advancement in season and out of season. He was a man of large heart, filled with love of his fellowmen, and a charity so broad that it always threw the mantle of charity over a brother's failings and weaknesses. He probably did more for the Society than any one who has ever been connected with it.

Dr. Socrates Maupin died from accident at the second meeting in Lynchburg. He had a solid and widespread reputation as a professor, teaching the chair of chemistry and pharmacy in the University of Virginia, and, being chairman of the faculty for 30 years, he was engaged in moulding and directing the minds of the youth of the South as well as those of Virginia. Few men of his day exerted a more extended and beneficial influence.

Dr. John P. Mettaur, one of Virginia's most distinguished sons in the medical profession, his reputation extending beyond the bounds of the State, was distinguished particularly as a surgeon. It was said of him that he wielded an influence solid as granite itself, and departing left behind an example of hard labor, self-abnegation, truth and honor.

Dr. Levin S. Joynes was the very personification of honor and justice, the learned, instructive and accomplished teacher; a perfect encyclopedia of knowledge; an authority on all medical subjects, rarely questioned; and never within the writer's knowledge worsted in debate. He was indeed a brave man who dared to cross swords with him. His strongest point was in diagnosis. He was one of the best teachers I have ever known.

Dr. Orlando Fairfax was one of nature's

noblemen, an accomplished physician, tender, gentle and devoted as a woman; of conspicuous moral courage, a consecrated Christian, and faithful in the discharge of every duty.

Dr. Robert B. Tunstall and Dr. Herbert Nash: I group these two names because they are two of the heroes of the profession.

In the dreadful epidemic of yellow fever in Norfolk in 1855, undaunted and unafraid, they nobly did their duty. A Sabbath calm over all, no sound in the streets of the stricken town but the rumble of the doctor's buggy and wheels of the hearse stacked full of coffins, the dead buried in long trenches, and the gravediggers falling to sleep on their tools, they were like soldiers sleeping on their arms, till the rising sun awakened them to further toil. Many of the profession slept as martyrs in humanity's cause in that dreadful epidemic. No greater love hath any man than that he lay down his life for his friends. No granite shaft or marble pile, no bronze tablet in sacred edifice commemorate their deeds, and to succeeding generations perhaps their names are not known. These two men were the friends of my youth and manhood, and were of most engaging manners and attractive personality. I would pay them the warmest tribute of a loving heart, and reverence them as true heroes in life's battle.

Dr. Francis D. Cunningham, I knew well, absolutely free from all sham, a true and skilful physician and surgeon, scholarly, and unswerving in his devotion and principle. Under a brusque exterior he bore a heart as tender as a woman's. I have seen the sympathetic tears streaming down his face as he endeavored to bring every resource of our art to thwart the dread destroyer, and restore to health and strength some loved one. He was most attractive as a teacher, and possessed the rare gift of imparting knowledge to his pupils, with whom he was most popular.

Dr. John Staige Davis was "a man whose life was one of extraordinary usefulness and beauty, adorned by attainments, literary and professional, of a high order." He was the Christian physician devoid of petty jealousy and envy. No worthier name adorns the roll of this Society, and he left an example to his brethren of the profession they would do well to follow.

Dr. A. M. Fauntleroy, third president of this Society, was an accomplished gentleman and physician. He did his most useful work as the Superintendent of the Western State Hospital, but was removed as the victim of political greed, and died, having scarcely passed middle life.

Dr. James L. Cabell: It was said of him when he died that "A luminous star in the constellation of eminent physicians and scholars has been extinguished." A man of rare dignity of manner and charm of demeanor, he "lived well, and happy, neither poor nor rich," learned enough; eloquent enough; ever with a sound mind in a sound body; delightful to his friends and eminent in his piety.

Dr. John G. Skelton, whom none could know and not love, was in every sense of the word God's noblest creation; a man spiritually, mentally, professionally, illustrating all the virtues in a lovely life, and going to his reward at a ripe old age, an honor to his profession and an example to his professional brethren of a well-spent life, which they would do well to emulate. It was an inspiration to have known him and called him "friend."

Dr. Wm. Otway Owen was a man of unusual endowments, one who had few equals and no superiors in the State in which he lived. The Lynchburg Virginian said of him: "He was a Virginian to his heart's core, and loved his State with all a Virginian's devotion and unselfishness." In his character he despised sham and everything that savored of pretense, religious cant, or hypocrisy. He had a deep reverence for holy things, and a profound respect for religion, pure and undefiled; but it was in his home life his virtues shone the brightest.

Dr. Wm. B. Towles was one of the most distinguished anatomists that this country has produced.

> "When hearts whose worth are proven
> Like his are laid in earth,
> There should be a wreath woven,
> To tell the world their worth."
> * * * * * * *
> "To live in hearts we leave behind
> Is not to die."

Dr. William C. Dabney, my classmate and intimate friend, was an eminent physician and teacher, a close student, a sympathetic, kind-hearted, cheerful and skilful Christian physician. He was an enthusiast for higher medical education, and labored earnestly for the attainment of that end. He was the first president of the Medical Examining Board of Virginia.

Two names conspicuous on the roll of honorary fellowship are those of Battey and Toner, both of national reputation, and frequently honoring the Society by their presence, and

contributing interesting and instructive papers to the proceedings.

Dr. William W. Parker was one of the most unique figures in the profession. He always rode on horseback and did an enormous practice, chiefly among the poor and people in moderate circumstances. Probably no man ever did so much work for humanity and for such poor remuneration. He was a man of great courage, both physical and moral. He served his country during the Civil War as commander of the famous Parker Battery of Artillery, winning great distinction as an officer for his daring and courage. He founded the Magdalene Home of Richmond, and to the end of his life labored for its welfare. He was a man of most decided convictions and fearlessly upheld the position he took until convinced of his error. He was withal an humble and conscientious Christian, and consecration to the Master's service was the mainspring of his life. He sleeps well, life's fitful fever ended, and I doubt not has received a rich reward for the deeds done in the body.

Dr. Hunter McGuire, the most distinguished member of the profession of his day and generation in the South, Medical Director of Stonewall Jackson Corps, was professor during his life in three medical colleges, and with the highest honors the profession in city, State and nation could give him. Ambitious, intelligent, aggressive, indefatigable, original, it is not to be wondered that he obtained wide reputation, both State and national. But the qualities which in no small degree contributed to his success were his wonderful intuitive knowledge of human nature and the magnetism of his personality. He enlisted the confidence of his patients as soon as he entered the sick-room, which subsequently developed into a devotion and loyalty seldom equaled and never excelled in the case of any other man. Of large and tender heart, the readiness with which he gave his services was only commensurate with his opportunities.

Dr. Oscar Wiley: On every hand men and women spoke of him as a doctor of the old school, a second Ian McLaren, always ready for service to suffering humanity. He was in its truest sense a good physician, a consecrated Christian, exceptional as a husband, father, friend, citizen and soldier. I greet you in memory, friend of past years; your falling asleep has left a vacancy that cannot be easily filled.

Dr. William S. Christian: His was a life of service to others such as few men enjoy. During the Civil War he rapidly rose to the rank of Colonel, and, subsequent to the War, he served in many positions of trust and honor. It was a privilege to have known Dr. Christian. Attractive in personality, the warm grasp of his hand and genial smile made one feel how genuine was his friendship.

Dr. John Spottiswood Wellford was a man of mark, an earnest and conscientious physician, a man of most versatile cultivation, and with a memory so retentive of what he read that he was a veritable encyclopedia on almost every subject and an accomplished conversationalist and most charming companion.

Dr. Rawley W. Martin: It was said of him, "He never acted a part to gain a friend, or carry a point." Simple, natural, unaffected, pure, lofty, unselfish, there was no need in him that charity should cast a veil over his faults. Desperately wounded on the blazing crest at Gettysburg, when the war was ended he returned to the pursuits of peace, and in his life exemplified the fact that peace hath even greater victories than war. When the end came, wrapping the mantle of his couch about him, he laid down as to pleasant dreams, and fell asleep.

John Herr Musser was an honorary fellow of this Society. He was an accomplished internist, a fine diagnostician and a consultant of national reputation. He was a voluminous writer, and his works are among the recognized authorities of the profession. The transactions of this Society have been enriched by contributions from his facile pen.

Dr. Samuel Preston Moore was not a member of this Society, but he was so unique a figure in the profession of this State that the record of his death has been inserted in the transactions. Before the war he was a distinguished surgeon in the army; when the war came, he threw his fortunes with the Confederacy; after the war he devoted his energies to the material development of educational interests in Richmond. It was his matchless executive ability which organized the Medical Corps of the Army of the Confederate States, and his resourcefulness which procured immediate supplies which made up the efficiency of that army. A half century has passed, and the people of the South have vied with each other in the raising of enduring monuments of stone and bronze to the men and officers who fought in that struggle. The doctors of that struggle were just as heroic, suffered the loss of life

and limb on the battlefield and faced added danger in the exposure to infection from wounds and disease. So far as external evidence goes, their labors have been forgotten, and appreciative gratitude for their services is lacking. Conscience approved patriotic duty well performed and hardship and suffering borne with a sublime courage.

The past four years have been full of stirring events; the world war has been fought and won; the medical profession has fully measured up to all requirements, and this Society has been largely represented in both Army and Navy. Trained to add to the preparedness of efficiency in civil life the essentials of the military side, the medical profession builded an army unexcelled in physical fitness,—the prevention of communicable disease, typhoid fever, tetanus, etc., the advance in aseptic and antiseptic surgery, and its marvelous saving in life and efficiency. Until this war, Japan held the record, with a standard of 20 per thousand—our mobilization twice as good as that of Japan. The startling fact is that the percentage of mortality has been less than the same number of picked men of the same age in civil life by the life insurance companies.

As to the control of the vice problem, careful examination shows that it was only half as prevalent in men after they enlisted in the army as in civil life, and it is authoritatively stated that no army has been as clean morally and as free from venereal disease as the American army. This is the record of the creation of an army of from three to five million men, and it was no light task—a jewel in the crown of efficiency and consecration of the medical profession.

Medical men played well their part in other fields in the face of gravest danger; it is said they were first on the firing line, went the farthest and were adjudged the bravest. Many made the supreme sacrifice of their lives. Nor was it solely abroad that members of this Society have shown their devotion to duty. The epidemic of influenza prevented the meeting in 1918. Many members of this Society lost their lives in the battle with this disease, and in our midst are the vacant places; they meet no more with us, but their supreme sacrifice has added lustre to the profession of medicine, for its devotion, unselfishness, and moral courage in the cause of humanity. All hail, brothers, and farewell! Methinks I hear them say,

"Today the journey is ended,
I have worked out the mandates of fate,
Naked, alone, undefended,
I knock at the uttermost gate.
Lo the gate swings wide at my knocking,
Across endless reaches I see
Lost friends, with laughter, come flocking,
To give a glad welcome to me.
Farewell, the maze has been threaded
This is the ending of strife;
Say not that death should be dreaded,
'Tis but the beginning of life."

"Creeds fade; faiths perish; empires rise and fall,
And as the shining sun goes on his way,
Oblivion covers with a dusty pall
The life of man predestined to decay;
Yet is there one thing that can never die,
The memory of the dead for truth and liberty."

Time fails me to call the roll of all the worthy names of those men who have lived and labored in this Society, many of my own classmates—Logan, Painter, Preston, Moncure, and those dear friends, Robinson, Trevillian, Tabb, Walker, Harvie, and a host of others. These men have finished their course, and left us the heritage of their example.

I realize how imperfectly I have told you the story of the past years in my feeble way. I stand here tonight between the dead and the living. With fate for pilot, I have sailed over the waves of time in company with all of them. As I have gleaned the transactions of the past years, memory has freshened and, in my imagination, I have heard the music of their voices, clasped hands in kindly greeting and looked into the faces of all these—my brothers of other days. The glad expectancy of annual meetings renewed fellowship. In my heart of hearts is the longing for the sound again of those voices that are still and the touch of the vanished hands. I am reminded how richly applies to them what a writer has well said: "I dare not place any gift, however beautiful, nor any service, however brilliant, above the talent or the skill which can relieve a single mortal pang, and the self-devotion which lays it at the feet of the humblest fellow creature."

"Though from the hero's bleeding breast
Freedom her pulses drew,
Though the white lilies in her crest
Sprang from that scarlet dew,
While valor's haughty champions wait
Till all their scars are shown,
Love walks unchallenged through the gate
To sit beside the throne."

In my own generation the shadows are lengthening; life's sun is declining to its setting in the west. For myself, I have only, after all of these years, a feeling of thankfulness for the privilege of being a member, though humble, of our noble profession, and

thank God for the opportunities it has given to me for service in the cause of humanity.

To my younger brethren I would say, have always high ideals, strive ever to lift the profession higher and higher above the plane of sordidness, selfishness and commercialism; realize its awful responsibilities, and

"Go join, head, heart and hand,
Active and firm to fight the bloodless fight
Of Science, Freedom, and the Truth of Christ."

A FLAGRANT INJUSTICE.*

By W. A. BAKER, M. D., Big Stone Gap, Va.

No doubt you have wondered somewhat at my subject. I am not going to worry you with any of my troubles or the troubles of physicians.

As I understand the practice of medicine at this advanced day, it includes preventive and remedial medicine. As a whole, we can do more effective work in preventing disease than by treating the malady after it has been contracted. The laws of our land abound with statutes to protect life, health and property; also for the prevention of cruelty to animals. We have laws regulating the hours of labor for government employees; child-labor laws to protect children from overwork—all of which are good and should be enforced.

There is one class of oppressed workers that has not been relieved by statute except in the State of California. This class to which I desire to call your attention is the one to which the student nurses belong. The case of the student nurse is a deplorable one, and it seems that no one has arisen to champion, in an effective way, her just cause for shorter hours and better conditions.

Except in California and in about three hospitals in other States, the student nurse is on day duty from seven A. M. to seven P. M. with two hours off duty during the day, seven days to the week, with two afternoons off duty each week, if circumstances will permit. Night duty is twelve hours each night for thirty to sixty nights in succession. Does it seem possible that any set of people in this twentieth century could be so ignorant and so inhuman as to require young girls just out of school to take care of from eighteen to thirty patients twelve long night-hours without an hour's rest and continue the same for sixty nights without intermission?

The hospitals and training schools are calling for a better class of young women to victimize. Should they have them? I say no, until the hours are shorter and the conditions for rest and recreation are improved.

We learn that long hours and overwork are a relic of barbarism practiced by the Sisters in medieval times as a punishment for sins committed, and were encouraged to the point of starvation and weakness for days and nights until the sinner became too exhausted to entertain devils or sin.

The student nurses have to keep up their class work and recite during their rest periods.

The business world has conceded that a person can do more effective work in eight hours than he can do in ten or more hours. Working in the coal mines or doing railroad work in the open air and sunshine is not to be compared to the arduous duties of a student nurse. A student nurse is speeded up every minute while on duty, and then weighed down with mental responsibilities.

About one-third of the student nurses matriculating abandon the work as soon as they learn its hardships, another third stick because they dislike to be called quitters, and the other third stick because they like nursing and are willing to be tortured and to sacrifice their health to be graduate nurses. There are many graduate nurses whose health has been ruined when they were pupil nurses, thereby unfitting them for lives of usefulness to their country.

The country and public health organizations are in need of bright, intelligent women who can organize and do administrative work.

What do the hospitals offer for three years of hard, devitalizing labor? Two to five hours of class work per week—using three for an average—would be four hundred and fifty hours for three years, which would amount to about three months' work of six hours per day; so they must toil more than hired servants for three years to get three months' instruction. At ordinary servants' wages, a pupil nurse in three years' work pays more than one thousand dollars for three months' actual instruction. This I call exorbitant tuition.

But the taskmasters will say they must have this long experience. Such is not the fact. Does an intelligent person have to spend a year to learn to take temperature, pulse, etc., when she could learn it in a few hours?

Talk about profiteering—the hospitals and specialists are the worst in the country; and the sinful part is the destruction of the health and the future usefulness of young womanhood.

*Read at a meeting of the Wise County (Va.) Medical Society, September 24, 1919.

The hospital trustees may say that we must have these long hours to take care of the patients, for we cannot afford any more nurses. I ask, "Will you create disease by trying to cure? Can you afford to kill the young, beautiful girl to save the bum? Can you afford to destroy the future usefulness of young women by overwork, in order to administer to the outcast and degenerate?" There is no need of either, for the pupil nurse can do more efficient work in eight hours than she can do in ten or more, and then she will not be laid off duty so much because of sickness. The pupil nurses are unable to get the sunshine and fresh air necessary for health, because when they are off duty they are so tired, sleepy and footsore they must lie down and rest.

Gentlemen, I shall desist, and not take too much of your time, as you may look on this as a foreign subject. I consider this a vital subject—one that concerns not only the pupil nurse, but also physicians, the public at large, and all health organizations, for the people are looking more every day in their hours of sickness and distress to the professional nurse.

Brother physicans, some body of organized strength must come to the rescue, for the pupil nurse cannot right this wrong. If a pupil nurse should hint at shorter hours, she would get her dishonorable discharge and never be allowed credit in another hospital for the work done in the one from which she was discharged.

Let us this evening, register ourselves as opposed to servitude as required by the hospitals of the country, and do what we can to stop this injustice to the helpless young women of our country who want to help humanity by learning the art and science of successful nursing.

After the reading of the above paper, the following resolution was passed unanimously by the Wise County, Va., Medical Society, September 24, 1919:

Whereas, a great injustice is each year being done to fifty thousand pupil nurses by the hospitals of the United States in requesting too long hours of service and drugery that should be done by hired help; it behooves us, as representative humanitarians, to register our condemnation of such customs:

Be It Therefore Resolved: that we request the hospitals of our country that they adopt the eight-hour system of duty for pupil nurses, and also prepare better facilities for housing and recreation;

Be It Further Resolved: that the Legislative bodies of Virginia at their next session pass laws making it unlawful, with penalty attached, for any hospital authorities to keep any pupil nurse on duty for more than eight hours in twenty-four.

REPORT OF THIRD CASE OF INTUSSUSCEPTION IN CHILD.

By O. K. PHLEGAR, M. D., Graham, Va.

James E., nineteen-months-old boy, was taken suddenly ill on September 6, 1919, at 4:30 P. M. I reached his home about 5:20 P. M.

History as related by mother: Child had been well up to this attack, when all of a sudden it screamed out, grabbing at the lower abdomen, turned extremely pale and vomited.

I found the little patient very restless at intervals of fifteen to twenty minutes. Temperature was subnormal; pulse 100; he tried to vomit just after the painful periods. When placed upon the bed, the child would assume the knee-chest position. Upon palpation, could detect a small tumor high in right abdominal region.

High saline enema was used, and this was followed by return of blood and mucus.

Diagnosis: Intussusception.

The patient was conveyed to the Bluefield Sanitarium, Bluefield, W. Va., and was operated upon by Dr. Wade H. St. Clair. Operation: Right rectus incision, which exposed tumor composed of the terminal portion of ileum, within which was found the appendix and a section of the caecum. The invaginated gut was released and appendix removed, but not inverted, as is the usual practice in treating the stump.

This is the third case of this kind I have had in my practice since the 25th of April this year, and is of unusual interest to me on this account.

Proceedings of Societies, Etc.

THE SOUTHAMPTON COUNTY (VA.) MEDICAL SOCIETY

Held its regular quarterly meeting in Courtland on Wednesday, November 5th, with Dr. W. T. McLemore presiding. Besides a good attendance of local men, Drs. James H. Culpepper and F. C. Rinker, of Norfolk, were present as invited guests, and a most instructive and enjoyable program was rendered.

Dr. W. T. McLemore was elected president, and Dr. R. L. Raiford secretary for the following year.

The following resolutions were unanimously adopted by the Society:

We, the Southampton County Medical Society,

feeling most keenly the loss of our greatly esteemed fellow-member and former secretary, Dr. W. B. Barham,* in his removal to other fields of labor, desire to express our unbounded appreciation of his usefulness while practicing his profession in our county;

THEREFORE, BE IT RESOLVED:

1st. We extend to him our heartfelt thanks and appreciation for his faithful and efficient work for the long period in which he gave freely of his time and means in his unselfish efforts for the uplift of his fellowman and his profession.

2nd. That our loss is felt by every member and by every citizen, who knew him but to love him, and that we know the community in which he now resides will be made richer in having him.

3rd. That we assure him of our continued interest in his future work, and commend him most heartily to those who are fortunate to secure his services.

4th. That a copy of these resolutions be spread on our minutes, one sent to the Tidewater News, and one to the local paper of the community in which he now resides.

On behalf of the Southampton County Medical Society,

W. T. MCLEMORE,
R. L. RAIFORD,
Committee.

*Dr. Barham has moved to Big Stone Gap, Va.

The Association of Railroad Surgeons of Virginia

Was organized as an auxiliary to the Medical Society of Virginia, during its recent meeting in this city, and will hereafter meet annually at the time of the State Society meeting. At the first meeting of the organization, a committee of eight was appointed to draw up resolutions and by-laws. This committee included chief surgeons of the railroads in Virginia, and is as follows: Drs. Joseph M. Burke, Petersburg, of the Seaboard Air Line Railroad; S. S. Gale, Roanoke, of the Norfolk and Western Railroad; Southgate Leigh, Norfolk, of the Virginian Railroad; W. T. Oppenhimer, Richmond, of the Chesapeake and Ohio Railroad; R. L. Payne, Norfolk, of the Norfolk and Southern Railroad, and Drs. E. L. Kendig, Kenbridge; H. B. Mahood, North Emporia, and A. M. Willis, Richmond.

The following were elected officers of the association for the ensuing year: President, Dr. A. M. Willis, Richmond; vice-presidents, Drs. C. C. Coleman, Richmond; W. E. Anderson, Farmville, and R. L. Raiford, Sedley; and secretary-treasurer, Dr. E. L. Kendig, Kenbridge.

Don't hurry and don't worry; don't get mad. Don't eat too much meat and don't overeat at all.—Bulletin Chicago School of Sanitary Instruction.

Virginia Medical Monthly

ISSUED AS VIRGINIA MEDICAL SEMI-MONTHLY, APRIL, 1896-DECEMBER, 1917.

PUBLISHED BY PUBLISHING COMMITTEE, MEDICAL SOCIETY OF VIRGINIA.

ALEXANDER G. BROWN, M. D., Chairman, Richmond, Va.
A. L. GRAY, M. D., Richmond, Va.
BEVERLEY R. TUCKER, M. D., Richmond, Va.
P. W. HOWLE, M. D., Richmond, Va.
E. L. KENDIG, M. D., Victoria, Va.

EDITOR

A. G. Brown, Jr., M. D.

All correspondence regarding editorial matters, articles, advertisements, sucscription rates, etc., should be addressed to the Journal.

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Editorial.

The Richmond Meeting.

That was a great meeting of the Medical Society of Virginia! The large registration of members was most gratifying. Physicians and surgeons, general practitioners and specialists from all parts of the State were interested attendants upon the sessions of the Society. The scientific program held the attention of the members, and the sections were well attended at each session. The standard of the papers which were presented was high and the discussions resulting were filled with telling criticism and suggestion.

Dr. Ennion G. Williams' address at the opening session on Tuesday night was filled with facts as well as important suggestions for future development of the public health work in Virginia. As Health Commissioner, he was extremely wise in selecting Problems of Public Health as the subject of his address, for one would hardly hope to have the opportunity to speak to a larger number of Virginia physicians at one time than were present at that opening meeting of the Society. During the whole meeting, frequent comment was heard upon the interest aroused by this address.

Dr. J. N. Upshur, the nestor of the Virginia Society, read with eloquent words his address on the history of the Medical Society of Virginia, depicting some of the early meetings

and recalling pungent sections from addresses and papers read before the Society in the long ago. Dr. Upshur's portrayals of the personal virtues and characteristics of eminent physicians in old Virginia were indeed interesting.

Dr. George Ross, now in his 81st year, also added to the pleasure of this meeting by telling, in his inimitable way, of the old days, frequently dealing with his personal experiences in poetic cadences and rhyme. It was an inspiration to listen to words from the lips of these Virginia gentlemen and true physicians who have spent their lives in such usefulness and honor in Richmond in the pursuits of medicine.

On Wednesday evening before a large audience of Virginia doctors, Dr. Henry A. Christian, a Virginian by birth, now Hersey Professor of Physic at Harvard, and Chief Physician to the Peter Bent Brigham Hospital, Boston, made a notable address (which appears in this issue of the Journal), upon the subject of The Science and Practice of Internal Medicine. It strikes a note of truth. It rings true in the realities of medicine. It shows the trend of the real progress in medicine. It brings out the thought that after all is said, truth, straight thinking, simplicity, and earnestness are chiefest characteristic of the true practitioner of medicine, and that with these characteristics used by medical men much of sham, veneer, superficial and untrustworthy work will disappear.

Dr. Johnston, of Pittsburgh, late colonel of the X-ray Service in the army, entertained the audience with a highly interesting recital of experiences incident to the creation of the great X-ray Service of the army, which eventually did such splendid work in France. Besides enlightening his hearers with many new thoughts and facts upon the stupendous task accomplished by America in equipping the army with X-ray outfits and teaching nearly a thousand physicians to become expert X-ray specialists in only a few months by intensive teaching, Dr. Johnston fixed the attention of his audience with many amusing and humorous stories. The excellent and satisfactory reception of the address was shown by the great applause which followed at the close of Dr. Johnston's remarks.

The New President, Dr. Paulus A. Irving.—Dr. Paulus A. Irving, of Farmville, was unanimously elected President of the Medical Society of Virginia. No other nominee was placed before the House of Delegates. The chance to honor Dr. Irving, who has for so long a time been an active member of the Society and who, since Dr. L. B. Edwards' death has been the Secretary and Treasurer of the Society, was apparently eagerly accepted by the delegates. This was not only true, it would seem, because of the high esteem in which Dr. Irving is held by fellow-members of the profession in this State, where he has followed the pursuits of medicine with honor and success, but also because the position which he had so long occupied in the Society was now to be placed in lay hands. This contemplated change offered the opportunity of placing him in a position of greater honor. Dr. Irving is widely known. His cordial and genial manner and his uniform fairness to all, have drawn to him friends from every part of the State. It is believed that his administration as president will be a new era in medical organization of this State. Let the membership of the State Society stand behind him!

The Ex-President, Dr. E. G. Williams.—No meeting of the Society exceeded this one in promptness and precision of business dispatch. There was no dragging. The papers were called promptly and the discussion was sharp and not allowed to exceed proper time limit. The sections met promptly; the order was good; and the general management of the meeting was characteristic of its presiding officer—Dr. Williams. The Fiftieth Annual meeting of the Society will be remembered for this fact.

Dr. Williams, also, during the period of his presidency kept well in touch with the work of the Society. He was active in supporting the publication of the Virginia Medical Monthly. He felt, as he often stated, that a medical journal owned by, and conducted for the interest of organized medical men in this State was the great need of our State Society. He supported by suggestion and by effort every move that looked to the improvement of this publication by the Society.

Dr. Williams also approved of the plan which the Society finally adopted of bringing the business affairs of the Society and the publication of the Journal under a common business agency. Through his efforts much force was given the movement, and his administration of the office of president of the Medical Society of Virginia will be remembered for its progressive and advanced position in this mat-

ter. Dr. Williams retires from the presidency with the respect and goodwill of the membership of the Society.

The House of Delegates.—This new body of the State Society did its work like an old and tried legislative body. The House assembled at an early hour and quickly got down to business. The first and chiefest business was the new plan of business management. Much discussion with some diversity of opinion was occasioned by this proposition. The final decision of the House of Delegates was to create the position of a full-time business manager, and an assistant business manager. The duties of these officials were those of conducting the journal of the Society, collecting the dues from the members, assisting in and taking care of the business matters of the Society, organizing and corresponding with the local county societies throughout the State. The Society was to secure an office in Richmond and to do the work of the Society there.

The Society decided to hold its 1920 meeting in Petersburg, and elected the following officers and standing committees:

President, Paulus A. Irving, M. D., Farmville.;

First Vice-President, M. J. Payne, M. D., Staunton;

Second Vice-President, Geo. T. Klipstein, M. D., Alexandria;

Third Vice-President, Geo. J. Williams, M. D., Newport News.

Secretary-Treasurer, (no election; duties to be performed by Business Manager.)

Councilors.

E. L. Kendig, M. D., Chairman.
Alex. G. Brown, Jr., M. D., Clerk.

State at Large.

Paul W. Howle, M. D., Richmond.
I. E. Huff, M. D., Roanoke.
R. L. Williams, M. D., Norfolk.
W. R. Cushing, M. D., Dublin.
B. R. Tucker, M. D., Richmond

First District—Clarence Porter Jones, M. D., Newport News.

Second District—Chas. R. Grandy, M. D., Norfolk.

Third District—Alex. G. Brown Jr., M. D., Richmond.

Fourth District—E. L. Kendig, M. D., Victoria.

Fifth District—(No election.)

Sixth District—E. P. Tompkins, M. D., Roanoke.

Seventh Distict—J. C. Flippin, M. D., University.

Eighth District—S. W. Maphis, M. D., Warrenton.

Ninth District—Isaac Peirce, M. D., Tazewell.

Tenth District—Chas. H. Davidson, M. D., Lexington.

Delegates to A. M. A.—Ennion G. Williams, M. D., Richmond; Southgate Leigh, M. D., Norfolk; W. E. Anderson, M. D., Farmville.

Alternates—C. V. Carrington, M. D., Richmond; J. T. Buxton, M. D., Newport News; Geo A. Stover, M. D., South Boston.

Chairmen of Committees.

Membership—J. A. White, M. D., Richmond.

Legislative—H. U. Stephenson, M. D., Toano.

Judiciary—W. F. Drewry, M. D., Petersburg.

Publication—Alex. G. Brown, Jr., M. D., Richmond, and Drs. A. L. Gray, E. L. Kendig, B. R. Tucker and P. W. Howle.

Necrological—Chas. M. Edwards, M. D., Richmond.

The Dues.

The House of Delegates also amended the by-law regulating the annual dues of members. The motion to increase the dues to $5.00 per annum was defeated, and $4.00 was adopted as dues for annual membership. This included all the rights of membership and the Virginia Medical Monthly free. It was also adopted that, in future, all dues were to be collected directly by the Secretary-Treasurer or Business Manager of the State Society, and that a member shall be given only one year of grace. If after that time there was failure to remit his dues, the journal should be discontinued and the membership with the Society severed. In the opinion of the majority of the House of Dellegates this resolution was of great importance and bore very vitally upon the question of successful business management.

The Virginia Medical Monthly.

This journal is now the property of the Medical Society of Virginia, one thousand dollars having been paid for it by order of the last meeting of the Society. From now it is the mouthpiece of the medical profession of this State. Every member of the medical Society, who pays his dues, should receive a copy of it

each month. Every member of the Society should have a personal interest in it. Every member should support it by contributing to the patronage of the selected advertisers purchasing space in it, for it is through the sale of this space that its present and future development, from a financial point of view, largely depends. When it is recollected that the firms advertising in this journal sell products that have been investigated by a disinterested board of experts, it is nothing but reasonable to feel a sense of satisfaction in urging the doctors of Virginia to support friends who patronize and aid a public enterprise so closely interwoven with the personal and general welfare of the physicians of the State.

The journal can be no better, in the matter of scientific excellence, than the contributors. The standard of scientific worth must be set by the members in the published work. This is known to be good, for in Virginia a very high level of scientific and professional knowledge is to be found.

News of M. C. Officers.

Dr. Charles M. Edwards has received his discharge from the army and has resumed his practice in this city, with offices at the Grove Plaza. While in the army, Dr. Edwards was director of the department of Physio-Therapy in several Government hospitals.

Dr. A. H. Deekens, formerly of Lynchburg, this State, who was in the service for some time at Camp Eagle Pass, Texas, upon receiving his discharge recently, went for a visit to relatives in Mount Washington, Md., before resuming his professional work.

Dr. John Blair Fitts, who was in the orthopedic service of the army for nearly three years, has recently returned from overseas and opened offices at 114 North Fifth Street, this city. He is limiting his practice to orthopedics.

Dr. B. B. Dutton was recently discharged from the service, and has resumed his practice in Winchester, Va.

Major A. G. Coumbe, formerly of Vienna, Va., is now at Post Hospital, Ft. Wood, New York Harbor.

Dr. Thomas V. Williamson, who has recently received his discharge from the service, has opened his office in the Spratley Building, Norfolk, and will limit his practice to urology. Dr. Williamson, who was active in various phases of work from the entry of this country in the war, was, after the armistice, on Col. Hugh Young's Urologic Staff and was chief surgeon to a big urologic camp at St. Nazairre, France. In the organization recently of the American Legion in Norfolk, Dr. Williamson was elected Post commander of Norfolk Post, No. 1.

Major George E. Barksdale, of this city, has been retained in the service, and is at present at Ft. Story, Va., as surgeon in the hospital, during the tests of the newly mounted guns.

Among other medical officers of Virginia who have received their discharges from the service are Drs. J. M Holloway, Port Royal; V. B. Hirst, Purcellville; A. J. Black, Hollins; S. P. Oast, Portsmouth; Wilbur M. Phelps, Staunton; I. Roy Wagner, Stuarts Draft; G. G Rhudy, Stonega; E. B. Noland, Rectortown; S. R. Donohoe, Norfolk, and C. E. Sears, Airpoint.

Married—

Dr. Emmette Francis Reese and Miss Lynie Ridley, both of Courtland, Va., November 5.

Dr. James Wright Clarkson, of Essex County, Va., and Miss Caroline Robinson Davis, Petersburg, Va., October 28. Dr. Clarkson has only recently returned from service with the medical corps of the army.

Dr. Frank Laird Wysor and Miss Jennie Goodwin Snead, both of Clifton Forge, Va., October 25. Dr. Laird has recently returned from service overseas in the medical corps of the army. They will make their home in Raleigh County, W. Va.

Dr. Lawrence O. Crumpler and Miss May Pace Talbott, both of Danville, Va., October 15. Dr. Crumpler was formerly of Clinton, N. C.

Dr. C. M. Hatcher, of Lynchburg, Va., and Miss Janice M. Miller, of Massies Mills, Va., October 21, in Richmond. Dr. Hatcher recently returned from overseas, having served abroad with the marines for the past eighteen months. Immediately after the marriage, Dr. and Mrs. Hatcher left for the Naval Hospital in Colorado, where Dr. Hatcher will serve on the hospital staff.

Lt. Halliburton McCoy, of the Medical Corps, U. S. N., and Miss Emma Louise Garnett, of Charlottesville, Va., October 25. Dr.

McCoy was a member of the '18 class, University of Virginia.

Dr. Leland E. Cofer, formerly of this city, but now located in New York City while in the U. S. Public Health Service, and Miss Luisita Leland, of New York City, in October.

Dr. Robert Lucas Ozlin, Dundas, Va., and Miss Bertha Marjorie Kelly, in New York City, October 15.

Doctors Increase Rates.

At a meeting of the Danville, Va., Academy of Medicine, the latter part of October, the members recided to increase their rates, the raise in same to be effective at once. Surgical work will cost 50 per cent. more than it did, night visits will be $6, day visits $3, and office calls $2. Consultations will be charged for at the rate of $10. The high cost of living was given as the cause for these increases.

For the same reason, the Greenville County, S. C., Medical Association, in recent session, also voted to increase the price of physicians' services from fifty to one hundred per cent.

The Association of Seaboard Air Line Railway Surgeons

Held their last annual meeting in Charleston, S. C., Dr. Frank Eskridge, of Atlanta, Ga., presiding. The meeting was one of unusual interest and had a good attendance. The three prizes annually awarded to members of this Association for the best papers this year went to Drs. H. C. Dozier, Ocala, Fla.; Southgate Leigh, Norfolk, Va., and Ivan W. McDowell, Savannah, Ga.

The following were elected officers for the ensuing year: President, Dr. L. J. Picot, Littleton, N. C.: vice-presidents, Drs. R. S. Cathcart, Charleston, S. C.: H. C. Dozier, Ocala, Fla., and Gilbert McLeod, Carthage, N. C.; secretary-treasurer, Dr. J. W. Palmer, Ailey, Ga. (re-elected): new members of executive committee, Drs. L. E. Harmon, Columbia, S. C.; F. R. Harris, Henderson, N. C., and E. H. Terrell, Richmond, Va.

Dr. Fred M. Hanes,

Of Winston-Salem, N. C., was elected president of the Eighth District Medical Society of North Carolina, at its last meeting in Greensboro.

American Public Health Association.

At the meeting of this Association in New Orleans, the latter part of October, Dr. W. S. Rankin, secretary of the North Carolina State Board of Health, was elected president, and San Francisco was chosen for the place of meeting of the 1920 convention.

Dr. W. A. Plecker, Richmond, who is in charge of Virginia's Bureau of Vital Statistics, was elected vice-chairman of this section of the Association.

New T. B. Hospital Probable in North Carolina.

Raleigh and Wake County, N. C., will decide about the middle of December in a Wake County Tuberculosis Hospital shall be established under the proposal of W. H. Williamson, prominent cotton mill president, to contribute $25,000 or more for this purpose.

Result of Influenza in Virginia.

Virginia's death roll from influenza for the twelve month period beginning September 1, 1918, reached an aggregate of 15,679, according to death certificates furnished by attending physicians. Individuals between the ages of twenty and thirty years furnished thirty per cent. of influenza deaths, while one-half of all fatalities were in those from fifteen to thirty-five years of age. People between the ages of 50 and 54 appeared to be better able to withstand the attacks of the germ than those of any other age group.

The largest number of deaths from influenza in Virginia occurred in October, when there were 7,240. The next largest number of deaths was in January, when there were reported 2,485. Of those who died from influenza, 10,398 were white people and 5,280 colored, showing a slightly larger proportion of deaths for the latter. Males furnished a considerably larger number of victims than females, there being 8,742 fatalities among the males and 6,937 among the females.

Serbia Practically Free of Typhus.

The five-year campaign which the American Red Cross doctors and nurses have been waging in Siberia against typhus has ended victoriously, for a recent report states that there are but sixty-five cases in the country, two-thirds of these being in Belgrade, where the Red Cross operates a hospital for typhus cases only.

During 1915, there were 150,000 persons to

die from typhus out of a population of three million. One hundred and fifty doctors succumbed to the disease, so that, when the Red Cross entered the field to combat typhus in that country, there was only one doctor to every 75,000 civilian population. Free dispensaries were the foundation of the campaign against typhus in Siberia, medical units working from these points far into the interior of the country.

Dr. Manfred Call

Was elected a member of the board of directors of the Country Club of Virginia, Richmond, at its annual meeting early this month.

Dr. and Mrs. William E. Price,

Of Meredithville, Va., were recent visitors in Norfolk, Va.

Dr. R. H. Woolling

Returned to his home in Pulaski, Va., early this month after a short stay in Hinton, W. Va.

Dr. Herbert Mann,

Of this city, has been re-elected surgeon to the State Penitentiary for a term of six years.

Dr. Bayne Decorated.

Dr. J. Breckinridge Bayne, of Washington, D. C., who saved southern Rumania from the scourge of typhus during the German occupation of 1917-1918, and who received the highest decoration from King Ferdinand, has again been honored by the Rumanian government. The King and Queen have personally thanked him for his services and presented him with the Order of the Regina Maria, First Class.

Dr. Bayne now has charge of three American Red Cross Hospitals which handle typhus cases only. Thousands of cases have been treated here, yet the low mortality of three per cent. has been maintained.

Reinstatement of Lapsed or Canceled War Risk Insurance.

More liberal conditions for the reinstatement of lapsed or canceled war risk insurance have been provided. For full information, write the Director of the Bureau of War Risk Insurance, Washington, D. C.

In order to give all former service men whose insurance has lapsed or been canceled a fair chance to reinstate their insurance, including men who have been out of the service eighteen months or more, and who are therefore barred from reinstatement under the former ruling, a special blanket ruling has been made which allows all ex-service men to reinstate their insurance before December 31, 1919, provided each applicant is in as good health as at date of discharge or at expiration of the grace period, whichever is the later date, and so states in his application.

Dr. J. M. Emmett,

Formerly of Richmond, Va., is now located in Huntington, W. Va., where he is associated with Dr. R. J. Wilkinson, who also practiced in this city for a time.

Augusta County (Va.) Medical Association.

Drs. J. B. Rawlings and C. C. Jones, both of Staunton, were elected president and secretary, respectively, at a recent meeting of this Association.

"Deer-Fly Fever,"

A disease occurring among the rural population of Utah and initiated according to popular belief, by a fly-bite on some exposed surface of the body, is caused by bacterium tularense. The germ which bears this name was first isolated by Drs. McCoy and Chapin, of the Public Health Service, as the causative agent in a plague-like disease of rodents.

An investigation just completed by Dr. Francis, of the Service, shows that this germ also afflicts man. The site of the bite and the neighboring lymph glands become tender and inflamed and they commonly suppurate. A fever like that in ordinary blood poisoning develops and lasts from three to six weeks. The patient becomes very sick and is confined to bed. The first case known to have terminated fatally was reported in 1919. Although it is not yet known if this disease prevails elsewhere, something like two dozen cases of it have occurred in Millard County, Utah, in each of the years 1917, 1918 and 1919.

Hospital for Soldiers Disfigured by Face Wounds.

An American hospital is to be opened in Paris by the American Red Cross especially for the treatment of soldiers disfigured by face wounds received during the world war. The

establishment of such a hospital was made possible by a special donation. The co-operation of one of the foremost French face and jaw surgeons has already been obtained.

Dr. Fred'k C. Rinker,

Who graduated from the University of Virginia in 1911, is now associated with Dr. Southgate Leigh, as chief internist in the Sarah Leigh Clinic, Norfolk, Va.

For the past six years, Dr. Rinker has been assistant professor of clinical medicine in the University of Wisconsin, and for two years of this time was chief of instruction in the Post-Graduate Medical School, University of Wisconsin Extension Division.

Dr. E. L. McGill

Has been appointed coroner of Petersburg, Va., to fill the vacancy caused by the death of Dr. W. H. Crockford.

George Ben Johnston Hospital Completed.

The George Ben Johnston Memorial Hospital, Abingdon, Va., was formally dedicated and turned over to the trustees on October 18. This hospital, with a capacity of 50 beds, including a ward for colored people, was erected at a cost of $65,000, raised by popular subscription as a memorial to the late Dr. George Ben Johnston, of Richmond. Dr. Johnston was a native of Southwest Virginia and was for a number of years in charge of the old Abingdon Hospital. This memorial was in recognition of Dr. Johnston's labors for the people of the Southwest section of this State, and was planned in order that it might do practical good in continuation of his life-work among the sick and distressed.

Drs. J. C. Motley, F. H. Smith and Philip Smith will be in charge of the hospital, though it will be open to the patients of any of the physicians of Southwest Virginia.

Dr. Johnston's widow and daughters attended the dedication exercises, at which Dr. Beverley R. Tucker, of Richmond, was the principal speaker.

Dr. and Mrs. J. Garnett Nelson,

Of this city, paid a short visit in Charlottesville last month.

New Member Appointed on Southwestern Hospital Board.

Governor Davis has appointed G. A. Lambert, of Rural Retreat, Va., a member of the Board of Directors of the Southwestern State Hospital, at Marion.

Dr. P. W. Howle

Returned to his home in this city about the middle of October, after a short visit to the Mayo clinics at Rochester, Minn.

266 American Nurses Died in the War.

Of 10,245 members of the army nurse corps who saw service overseas, 266 died and three were wounded in action, according to a report on the work of the nurses on the western front made by the director of the army overseas nursing service.

Dr. Sam Wilson,

Of Lynchburg, Va., has been re-elected for a term of three years as one of the directors of the Y. M. C. A., in that city.

Contract Awarded for Hospital.

The contract has been awarded for the immediate erection in Victoria, Va., of a $50,000 hospital which has long been under consideration for that place. It will be a two-story brick building with modern equipment, and it is hoped it will be ready for opening by next spring. Drs. E. L. and W. D. Kendig will be in charge.

Commission on Preventable Diseases.

Governor Davis has appointed the following as members of the Commission on Preventable Diseases, authorized by the last regular session of the General Assembly of Virginia: Dr. N. Thos. Ennett, Dr. A. Murat. Willis, and Judge J. Hoge Ricks, of this city; Lindsay Gordon, of Louisa, and A. F. Thomas, of Lynchburg.

This commission is to meet shortly to begin work on a report to be submitted to the forthcoming session of the Assembly. It is anticipated that their work will cause a more lively interest in and a closer co-operation on the part of the lawmakers with the work of the State Health Department than has hitherto existed.

Dr. and Mrs. Hunter McGuire,

Of Winchester, Va., recently visited in Cleveland, Ohio.

Dr. Alexis Carrel

Was scheduled to leave France the first week in November, to resume his work with the Rockefeller Institute, in New York City. He has completed four years' service with the French army hospitals.

Dr. John L. Kable,

Who has for several years made his home in Youngstown, Ohio, has returned to Staunton, Va., and is at 317 North Market Street, that city.

The Lewis-Gale Hospital Training School for Nurses,

Roanoke, Va., held their commencement exercises on the evening of the 24th of October in Roanoke Hotel. Seven young ladies were graduated from this school and two from the affiliated school of the George Ben Johnston Memorial Hospital, of Abingdon.

Armenian and Syrian Relief.

Following in the wake of the Red Cross Roll Call, it may not be amiss to call attention to the Campaign which will be launched in February for the relief of the Armenians and Syrians. To those who have seen or know intimately of the sufferings of these people of the "Near East" the appeal need only be presented. To help them is one of the biggest works resulting from the war. Let us each be prepared to do our bit.

Dr. Benjamin E. Washburn,

Who has for several years been supervisor of rural sanitation in North Carolina, with headquarters at Raleigh, will leave the first of the year for Jamaica, where he will work under the International Health Commission. Dr. Washburn has a number of friends in this State, having graduated from the University of Virginia in 1911.

Mississippi Valley Medical Association.

Dr. Frank B. Wynn, Indianapolis, was elected president of this Association at its recent meeting in Louisville, and Drs. H. E. Tuley, Louisville, and S. C. Stanton, Chicago, were re-elected to the positions of secretary and treasurer, respectively, which offices they have held for a number of years. The next meeting is to be held in Chicago in 1910.

Hospital for Public Health Service.

Surgeon General Blue has authorized the transfer of Kenilworth Inn and other property in Asheville, N. C. until recently occupied by U. S. Army Hospital No. 12, to the Public Health Service for use as a general hospital.

The New York and New England Association of Railway Surgeons,

At their twenty-ninth annual meeting in New York, October 20, elected Dr. William B. Coley, of New York City, president. Dr. Geo. Chaffee, of Binghamton, N. Y., was elected corresponding secretary, and Dr. J. H. Reid, Troy, N. Y., recording secretary.

The attendance was far above the average, and the meeting was one of the very best in the history of the association.

Drs. Harris & Willcox.

Drs. W. L. Harris and Claiborne Willcox, of Norfolk, Va., have become associated in practice and have offices in New Monroe Building, that city.

Dr. William W. Falkener,

Formerly one of the internes at Children's Hospital, Philadelphia, has located at 2200 Grove Avenue, this city, and will limit his practice to pediatrics.

Dr. Robert U. Drinkard,

A native of Campbell County, this State, but who has made his home in Wheeling, W. Va., for the past nine years, has been made a fellow of the American College of Surgeons. Dr. Drinkard was a graduate of Johns Hopkins Medical School in the class of '08.

Marine Hospital at Sewell's Point.

A new marine hospital is being erected at Sewell's Point, this State, which will be of fireproof construction and cost over $100,000. The work is to be done under the direction of the U. S. Public Health Service.

Dr. Claude Colonna

Has returned to New York after a short

visit in this city. Dr. Colonna, who is now a senior lieutenant in the U. S. Navy, graduated from the Medical College of Virginia a couple of years ago.

Dr. F. W. Lewis, Jr.,

Of Lancaster, this State, has been sent by the U. S. Government to Brest, on a short mission.

Dr. James C. Doughty,

Of Onancock, Va., who served overseas in the medical corps of the U. S. Army, was made vice-chairman of the Red Cross drive in Accomac County.

New Hospital for Wilson, N. C.

Drs. K. Carl Moore and Henry B. Best, of Wilson, N. C., and Dr. Willis, formerly of South Carolina, are building and will shortly open a forty-bed hospital in Wilson.

The Rocky Mount, N. C., Sanitarium,

Which was established in Rocky Mount, N. C., in 1913 with 40 beds, has been enlarged to double its former capacity.

State University Hospital of Oklahoma.

Dedicatory exercises were held October 13, for this hospital, which was established primarily to serve the people of Oklahoma who would otherwise be unable to secure satisfactory hospital service. It contains 175 beds, of which 25 are private rooms. Persons of limited means will be admitted on certificate of their physician or county health officer, for cost of hospital service. Such patients receive medical and surgical service free of charge.

Dr. Carlisle L. Nottingham,

Of Cape Charles, Va., is in Baltimore for several months, taking a special course in pediatrics at Franklin Square Hospital.

Dr. and Mrs. B. H. Tatum

Have returned to their home in Clifton Forge, Va., after a short stay in Baltimore.

Eastern Shore Doctors at Meeting.

Drs. G. W. Holland, of Eastville, and J. Mortimer Lynch, of Cape Charles, were among the doctors from the Eastern Shore of Virginia who attended the meeting of the State Society in Richmond in October.

Location for Doctor.

Among the many places in the State needing a physician is Morrisville, Va. Any one interested may communicate with Mr. T. T. Jones, of that place.

WANTED—Location in a prosperous small town in Virginia by a general practitioner of eight years' experience. One year public health work. Immediately available. Refer-

Obituary Record.

Dr. George Washington Cocke,

Of Mooresville, N. C., died in Charlotte, November 12, after undergoing an operation. He was born in Pittsylvania County, this State, fifty-eight years ago, and received his medical education at the College of Physicians and Surgeons, Baltimore, from which he graduated in 1885. Dr. Cocks was for a number of years a resident of Danville, Va., where he was also a member of the Board of Aldermen.

Dr. William Hamilton Crockford,

Petersburg, Va., died suddenly November 2, as a result of complication from heart trouble. He was born in Charlottesville, Va., forty-two years ago, and studied medicine at the University of Virginia, from which he graduated in 1902. For two years he had been coroner of Petersburg, and during the war was a member of the draft board of that city. He is survived by his wife and two children.

Dr. Robert Green Holloway,

A prominent citizen and physician of Caroline County, Virginia, died at his home near Port Royal, October 14. His death was due to a fall which he had a few days before that time. He was eighty-seven years of age and had practiced his profession in Caroline County since his graduation from the University of Pennsylvania in 1856.

Dr. Charles Fremont Taylor,

Widely and popularly known as the editor and publisher of the Medical World, died at his home in Philadelphia, November 4. He wrote extensively on political, sociological and economic questions. He was a native of Attica, Indiana, and was sixty-three years of age. Dr. Taylor was graduated from Central College of Physicians and Surgeons, Indianapolis, in 1880.

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Original Communications.

GASTRIC AND DUODENAL ULCERS.*

Etioloy and Symptomatology.

By C. R. GRANDY, M. D., Norfolk, Va.

In the last ten or fifteen years a very radical change has come in our ideas in regard to gastric and duodenal ulcers—a change so radical, indeed, that it has made the older men, at least, entirely revise the lessons they had received in the medical schools, and as hospital internes. Consequently, our Society has thought it wise to review some of the work recently done on this disease, and has given me the task of presenting to you the rather dry theoretical side of the subject, classed as Etiology and Symptomatology, leaving to my confreres the practical parts, to which every good American would naturally turn first. As some discussion of the Etiology and Symptomatology is considered necessary in every well conducted textbook, even if it is frequently skipped over or merely glanced at by the ordinary reader, I trust you will bear with me, while I try to give in as concise a form as possible a few points which may make more lucid the very much more interesting and practical subjects of Diagnosis and Treatment of Peptic Ulcer.

We have long been trying to find the cause of chronic peptic ulcers, but most of our theories have fallen short and only explained a part of the subject, if they have really touched it at all. First of all, we have blamed trauma and the acid gastric juice, then, following Virchow, we have looked for thrombosis of some of the vessels. But while all of these conditions occur, they certainly do not explain all peptic ulcers, and are now being considered as secondary factors, for abrasions of the stomach mucosa frequently occur, but they usually promptly heal, while thrombosis will not occur without some exciting cause. Hyperacidity is now considered as a result rather than a cause of ulcer, and frequently occurs without producing an ulcer.

Experimental work on this line has been taken up in a new way by Rosenow, who has isolated a not very virulent streptococcus from human chronic peptic ulcers, as well as from the teeth, tonsils, and sinuses of ulcer cases. These streptococci, when injected intravenously into dogs, showed a marked affinity for the stomach and duodenum and produced chronic ulcers in the pyloric end of the stomach and the first part of the duodenum. Other dogs, fed with sharp bones, had abrasions of the stomach, but these promptly healed, as did the streptococcic ulcers in the fundus, while streptococcic ulcers near the pylorus became chronic under the influence of the gastric acidity and the peristaltic unrest of the part. Rosenow thinks that the thrombosis considered by Virchow as the cause of chronic peptic ulcer is itself the result of this septicemia. This theory has, of course, not been absolutely proven to be the only cause of peptic ulcer, still it seems nearer correct than any of the old theories, for Rosenow has repeatedly produced the ulcers by injecting these streptococci, and they have also been found to be present in the teeth, tonsils, and sinuses of all of a series of cases of peptic ulcer examined for them.

It is most interesting to compare recent papers with those written some ten years before. Thus, Osler, in the 1906 Edition, said that duodenal ulcer is less frequent than gastric ulcer, and Reed (Diseases of the Stomach, 1904), that ulcer of the stomach is variously estimated to be ten to thirty times as frequent as duodenal ulcer; but, in 1915, at the Mayo clinic, duodenal ulcer was found to be three times as frequent as gastric. In his 1907 Edition, Boas states that peptic ulcer occurs mostly in adolescent, chlorotic girls, while at the Mayo clinic 66 per cent. of gastric ulcers, and 77 per cent. of duodenal ulcers were found in men, and the average age at operation was 44. What does this mean? It means first, that we were failing to

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919, as a part of the Symposium on Gastric and Duodenal Ulcer.

diagnose the great majority of these ulcers, which is borne out by W. J. Mayo's statement that less than one per cent. of ulcers found post-mortem in the Philadelphia hospitals had been diagnosed in the wards.

To what, then, do we owe this improvement in our diagnosis? We owe it to an increase in knowledge due primarily to the work of the surgeons, notably the Mayos in this country, and Moynihan and Mayo Robson in England, which in turn was the result of a change in method in that they compared the patient's history with the living pathology found in the operating room and under the X-ray rather than depended on the stomach tube and external examination of the abdomen, or waited to confirm the diagnosis by examination after death, which in these cases is happily often long postponed even without treatment, while the findings are frequently obscured by secondary changes. As a result, it has been found that a diagnosis of peptic ulcer can best be made, first, by a careful review of the symptoms of the patient; secondly, by a roentgenological examination; thirdly, by a chemical analysis of the stomach contents; and lastly, by physical examination. None of these methods should be neglected, but all writers now agree that a proper interpretation of the history of the patient's symptoms is of first importance, and that the others frequently can be merely considered as confirmatory evidence.

The most characteristic symptom of peptic ulcer is the epigastric pain and distress which comes on at regular intervals after eating; that is, in a half to two hours in gastric, and from two to five hours in duodenal ulcer cases. This pain is described as a burning, gnawing hunger, or aching pain, and is usually accompanied by gas, sour stomach, and belching, or vomiting of sour material. It continues till food, an alkali, vomiting, or irrigation brings relief, the duration of the pain being more certain in duodenal than in gastric cases. These symptoms are repeated each day for some time, and then there is an intermission, or marked remission, which in time is followed by a similar attack. These attacks and intermissions may go on for years, the average duration of cases coming to the Mayos for treatment being twelve years. Moynihan draws special attention to the night pain which, occurring about 1 or 2 A. M., is quite characteristic of duodenal ulcer, when it occurs, but it was only found in 7 per cent. of the cases at Rochester, Minn. While the pain in both types of ulcer is epigastric, it may radiate into the back, being most often felt there at the level of the ninth or tenth dorsal vertebra. In about 80 per cent. of the cases the pain is accompanied by vomiting of sour, burning material, which at one time or another is accompanied by haematemesis in about 25 per cent. of the gastric cases, and by melena in about the same per cent. of the duodenal cases. Gastric analysis shows hyperacidity and hypersecretion in about three-fourths of the ulcer cases, but this hyperacidity is not of itself enough to establish a diagnosis, as it is also found in functional states, ptosis, and extra gastric lesions, while blood is found only in about a third of the cases, and may come from food, or other lesions in 20 per cent. of these cases. Especially in those cases that have persisted for years, we may have a normal or even a sub-acidity. The thread test (that is, the swallowing of a shot to which is attached a piece of white silk), may, by a blood stain, reveal the location as well as the presence of ulcer, though a negative finding, of course, does not exclude an ulcer. It is evident from this that we cannot wait to make a diagnosis on the chemical findings, though they are very helpful along with the other symptoms.

The X-ray may be able to make a positive diagnosis in some cases, and is considered as of more importance than gastric analysis by the Mayos. But again, a negative finding does not rule out the presence of an ulcer. Besides, a picture of the ulcer cavity filled with barium, an hour glass stomach, or a six hour gastric retention, or a deformity of the duodenal cap, are symptoms of great importance in showing the presence of peptic ulcer.

Physical examination only reveals epigastric tenderness, unless there is perforation, in which case we, of course, have marked rigidity in the upper abdominal muscles, for ulcer never makes a mass large enough to be felt through the abdominal walls. When perforation occurs, we have a sudden, agonizing pain in the epigastrium, coming frequently without prodromal symptoms. This pain lasts for two or three hours, and is accompanied by marked shock, rigidity, and a typical anxious facies. Fever may not be present until later, but there is a quick pulse, and a rising leucocytosis. Then there is a marked remission when symptoms abate, and the patient looks better. The recurrence of pain, possibly accompanied by tympanites and free abdominal fluid, indicates the presence of peritonitis.

It has been my attempt to give you a brief introduction to our Discussion of Gastric and Duodenal Ulcers, which I trust may prove of service in making more understandable the really interesting and important part of the discussion, which will come in the papers of the two men, who will now take up the practical side of the subject.

THE SURGICAL TREATMENT OF GASTRIC AND DUODENAL ULCER.*

By STEPHEN H. WATTS, M. D., F. A. C. S.,
University, Virginia.
Professor of Surgery, University of Virginia.

Discussion of the surgical treatment of gastric and duodenal ulcers is of perennial interest for, in spite of the volumes which have been written on the subject and the great number of operations which have been performed for these conditions, there is still considerable diversity of opinion regarding the indications for operation and the best surgical procedure in such cases.

The diagnosis and medical treatment of these ulcers have been discussed by the previous speakers. As regards diagnosis, I should like to call attention to the emphasis which has of late been laid upon a careful history and X-ray examination and the tendency to attach comparatively little weight to the results of gastric analysis. I suppose most of us will agree that the uncomplicated cases belong, at least at first, to the medical man rather than to the surgeon, and should be given a thorough course of medical treatment before surgery is undertaken. As a matter of fact, most of these cases have run the gamut of the medical men before they fall into the clutches of the surgeon.

The indications for operative treatment may be considered as relative and absolute. The relative indications are: (1) failure to respond to a prolonged, conscientious course of medical treatment, as indicated by a frequent recurrence of symptoms, or progress of the local lesion as revealed by the X-ray; (2) inability of the patient for one reason or another to undergo such a prolonged and perhaps expensive course of treatment. This applies particularly to the great mass of wage-earners who, because of the demands of their occupations, cannot carry out this rigid treatment.

The absolute indications for surgery, as well stated by Gross and Held, are:

1. Cases in which, notwithstanding prolonged medical treatment, occult blood persists, causing a progressive decline in the health of the patient. Such cases must be operated upon without delay for two reasons: because, as first pointed out by Boas, the persistence of occult blood and its most common accompaniment—gradual reduction or even disappearance of free acid—may mean carcinoma; also, even without carcinoma, the secondary anaemia prevents the healing of the ulcer, and makes medical treatment unsuccessful.

2. Cases in which hematemesis is repeated in spite of appropriate care. In these patients the operation should be performed, if possible, during the free interval.

3. Cases in which the history of one or more attacks of excruciating epigastric pain with collapse manifestations indicate threatened perforations, which can now be verified by the X-ray finding of penetrating ulcer.

4. Acute perforation. The sooner the operation is performed the greater the chances of recovery.

5. Marked pyloric stenosis.

6. Organic hour-glass contraction.

7. Cases in which, in addition to the ulcer, there is co-existent chronic appendicitis or disease of the bile passages, with or without stones.

Although the etiology of peptic ulcer is still imperfectly understood, I believe that most of us now attribute an important role to infection, especially since the important work of Rosenow on this subject appeared; therefore, we must remember that when we excise the ulcer we are merely removing the end stage of some other pathologic process and that it behooves us also to search for foci of infection in the gall bladder, appendix, teeth, tonsils, or elsewhere. Since the etiological factor or factors are not removed by surgery in most cases, we should emphasize the importance of continuing the medical treatment after the operation has been performed. Many surgeons are apt to neglect this feature, apparently under the impression that the operation is sufficient to effect a cure in all cases.

The relation of gastric ulcer to the development of carcinoma has for some time been a matter of interest and dispute. Some authors even go so far as to consider every niche or

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induration, as revealed by the X-ray, a precancerous stage, their contentions being strengthened by the interesting studies of Wilson and McCarty, who found indications of early carcinoma in many chronic ulcers which they examined microscopically. Others, however, having in mind the pathologic investigations of Orth, MacCallum, Ewing, and others, and the results of clinical and post-mortem observations, take a more conservative view and think that the development of carcinoma on an ulcer is not such a frequent occurrence as is claimed by the former group. Nevertheless, I believe most of us have a very healthy respect for the possibility of a cancer developing in a chronic indurated ulcer. Eiselsberg, from a study of his ultimate results, found that ten per cent. of gastric ulcers had become carcinomatous.

Since gastro-enterostomy alone, or in combination with other measures, has played such a prominent part in the treatment of these ulcers, it is well to say something about this procedure. It might be interesting to trace the history of this operation from the anterior long loop method of Woelfler to the posterior no loop or short loop gastro-jejunostomy, as developed by von Hacker, Peterson, Mayo, Moynihan, and others, but the time does not permit. The beneficial effects of gastro-enterostomy have been attributed chiefly to: (1) drainage; (2) the reduction of gastric acidity by the regurgitation of intestinal contents.

(1) Influence of Drainage.—It was formerly thought that the food passed rapidly through the stoma into the jejunum, thus sparing the stomach, but by animal experimentation Cannon, and later Cannon and Blake showed that this is incorrect. They found that the tendency of the food is to be churned up in the stomach, and for the most part to pass through the pylorus in spite of the new stoma: moreover, they showed that that portion which passes through the stoma does not flow in a steady stream, but is ejected intermittently. However, they found that the nearer to the pylorus the stoma is placed the greater is the amount of stomach contents passed through it. We cannot, however, apply fully Cannon's findings on a healthy animal to a gastro-enterostomy in a diseased stomach, for here the pylorus is often more or less occluded by spasm or inflammation and the stoma facilitates drainage, at least until conditions about the pylorus become more nearly normal.

(2) Neutralization of Acidity.—What has just been said regarding drainage is true of the neutralization of acidity by regurgitation of intestinal juices through the new stoma, namely, that for a time after the operation regurgitation takes place through the stoma, but as the pylorus begins to function more normally the acidity can be neutralized from the duodenum by way of the pylorus and regurgitation through the new stoma diminishes. These statements are borne out by the work of Wilensky and Crohn on the post-operative results of gastro-enterostomy. Many investigators have studied the results of gastro-enterostomy from the experimental and clinical standpoint, and most of them find that, in the absence of extragastric complications, the secretions, shape, size, peristalsis and time of emptying of the stomach in the course of time return very much to normal, whatever operation is performed.

Ever since gastro-enterostomy has been performed for ulcer of the stomach and duodenum the best results have been obtained in benign pyloric stenosis. In view of this fact, and wishing to protect the ulcer from the hyperacid gastric juices, which tend to pass through the pylorus in spite of the new stoma, many surgeons have advocated an exclusion of the pylorus combined with the gastro-enterostomy. Some say that the tendency of the pylorus to begin functioning again is an advantage, and think that exclusion is only indicated in hypertonic conditions of the stomach, if at all.

Various methods of excluding the pylorus have been tried, but it seems to be practically impossible to obtain a permanent exclusion short of completely dividing the stomach proximal to the pylorus, as advised at one time by Eiselsberg. In view of the doubtful value of exclusion, this method is entirely too dangerous to be generally used. Some of the simpler methods, which are usually followed sooner or later by re-establishment of the lumen are: (1) plication of the wall by suture; (2) ligation with linen or wire; (3)throwing a strip of fascia about the pylorus and sewing it down tightly; (4) isolating the mucous membrane of the pylorus through a small incision in the serosa and muscularis, and ligating or wrapping it with fascia. This is said to produce a permanent occlusion. I am very doubtful about the value of exclusion, but often attempt

to produce some temporary closure by plication sutures.

The chief complications of gastro-enterostomy are the so-called "vicious circle" and gastro-jejunal or jejunal ulcer. The vicious circle is much less common than it was formerly, probably due to better technic, and, like Deaver, I am inclined to think that it is usually due to some form of obstruction. It was my fortune in 1903 to publish the first article written in English on jejunal ulcer following gastro-enterostomy. This ulcer occurred in a dog upon which I had performed a gastro-enterostomy several months before, perforation of the ulcer being found at autopsy to be the cause of the animal's death. I was very much interested in the specimen, and on investigation I found that fourteen such ulcers had been reported in the German literature. Since that time numerous cases have been reported, and the subject has assumed a lively interest. In 1909, H. J. Paterson published an interesting article on the subject, tabulated 52 recorded cases and added one of his own. He states that nearly one-third of reported jejunal ulcers involve both the stomach and jejunum. They were found in the line of anastomosis, and were therefore gastro-jejunal, although originally classed as jejunal ulcers. He says: "Jejunal ulcers are the result of altered physiologic conditions produced by operation; gastro-jejunal ulcers are probably a direct consequence of operation. Mayo says the latter should be classed as gastro-jejunal, and views most of them as due to technical failures in the operation itself rather than as an unavoidable condition, which up to the present time true jejunal ulcers seem to be." W. J. Mayo thinks the presence of one of these ulcers is probably the most frequent cause of the failure of gastro-enterostomy to effect a complete cure.

Some of the etiological factors in the production of these ulcers are probably: (1) hyperacid stomach in spite of gastro-enterostomy —the jejunum being normally alkaline; (2) traumatism of clamps; (3) the use of non-absorbable sutures, which have been found exposed or hanging in some of these ulcers. Many surgeons think this is the chief cause, and have abandoned the use of non-absorbable sutures in gastro-enterostomy; (4) wound infections (Rosenow) on the traumatized surface.

When symptoms of gastric or duodenal ulcer recur a year or more after a gastro-enterostomy we should think of a gastro-jejunal or jejunal ulcer. Pain, soreness, loss of weight, vomiting, and marked hyperacidity are suggestive. Carman and Miller say the most significant signs, as revealed by the X-ray, are the deformity and irregularity of the afferent loop, narrowing of the stoma and the exaggerated dimpling and sometimes the formation of a pouch at the stoma. The treatment of this type of ulcer will be dissociation of the gastro-enterostomy with closure of the openings plus new gastro-enterostomy, knife or cautery excision of ulcer, resection of intestine, etc., depending upon the case, followed by careful dieting and medication.

I have encountered only one of these ulcers in man, and this was of the jejunal type.

Mr. W. A. P., aged sixty-six, was admitted to the University Hospital February 15, 1919, complaining of pain in the stomach and bowels. He had been operated upon at another hospital seven years before, a gastro-enterostomy having been done for duodenal ulcer. For about three years he was completely relieved, then he began to have attacks of gastric pain simulating his previous attacks. These attacks occur without apparent provocation, last several weeks and then disappear entirely for a varying interval. The pain is of a burning, boring character, and is often relieved by taking food or soda. He rarely vomits and has vomited no blood, but says he has passed black, tarry stools quite often since the previous operation.

Examination.—The patient was a thin man, but looked fairly healthy. General abdominal examination was negative, with the exception of some tenderness in the epigastrium. Gastric analysis on one occasion showed some stasis, but no increased acidity. X-ray picture after barium meal showed a very low stomach; the gastro-enterostomy stoma was patent and no distortion was made out, but the stomach was rather slow in emptying.

Operation (February 26, 1919): Mid-line incision in epigastrium. Numerous dense adhesions about the pylorus were separated and the pylorus found to be patent. It was also found that a posterior gastro-enterostomy had been done, but in such a way that the jejunum pointed to the right. The stoma was found

to easily admit the thumb. The intestine just proximal to the stoma was opened, and an old, somewhat indurated ulcer 1.5 cm. in diameter was found on the mesenteric border opposite to the stoma and was cauterized with the actual cautery. It might have been preferable to excise the ulcer, but in view of its situation an operation of this magnitude was hardly considered justifiable in a man of his age. Since it was feared that the intestine might not be functioning properly in the region of the gastro-enterostomy, a lateral anastomosis was made between the proximal and distal loops of bowel.

The patient made a nice recovery, and a short time ago I heard that he is in excellent condition and completely relieved.

Some authors claim that gastro-enterostomy for gastric or duodenal ulcer does not restore the stomach to a normal physiologic condition, that it is liable to many complications, and that it fails to completely cure the patient in a considerable percentage of cases. They, therefore, advocate the doing of some kind of pyloroplastic operation whenever it is at all feasible, though most surgeons put their main dependence upon gastro-enterostomy and seem fairly well satisfied with the results. For example, Peck in 1915 reported his ultimate results in 58 cases of chronic duodenal ulcer in which gastro-enterostomy alone had been done, with 51 cured, 5 improved and two unimproved.

The old Heineke-Mikulicz pyloroplasty is seldom used. The Finney pyloroplasty or gastro-pyloroplasty is a valuable operation in selected cases, and in his hands has had a wider range of usefulness. It is chiefly applicable, however, where the gastric and duodenal mobility are good, where perigastritis is absent, and where the pylorus is not involved in scar tissue. In 1914, Finney reported 100 cases treated by this method. Five died shortly after operation and seventeen were not traced. Ultimate results were found to be satisfactory in 93.6 per cent. of the seventy-eight cases which were examined.

Horsley has recently published a method of pyloroplasty which, he claims, has certain advantages over that of Finney, but it seems to me that his method is subject to the same limitations, as noted above.

In general, I think it may be said that these operations are excellent in selected cases, but that gastro-enterostomy has a wider application and is a much safer procedure in the hands of the average surgeon.

Coming now to the treatment of gastric and duodenal ulcers, I think it may be said that surgeons are directing more and more attention to the removal or destruction of the ulcer itself, rather than relying upon gastro-enterostomy or pyloroplasty alone. This change is due to the fact that the latter procedures have been followed in a considerable number of cases by recurrence of the ulcer, by bleeding, and in the case of gastric ulcer by malignant change. In this connection it is interesting to speculate as to why we practically never find cancer developing in a duodenal ulcer.

The ulcer may be removed by the knife or by the cautery, as advised by Balfour, who cites the following advantages of the cautery method: (1) the ulcer is destroyed and with it any early malignancy; (2) little sacrifice of sound tissue; (3) haemorrhage early or late is almost surely prevented; (4) simplicity, speed of accomplishment and safety; (5) interferes less with nerves, and therefore with gastric peristalsis.

W. J. Mayo calls attention to the fact that perforation of an ulcer usually cures the ulcer, as the infection at the base of the crater is thus gotten rid of, and in the same way cautery puncture cures the ulcer by destroying infection.

If malignancy is suspected, a small bit of tissue can be removed for microscopic examination before the cautery is applied.

In brief, the treatment of duodenal ulcer may be summed up as follows: Best operation is incision or destruction of the ulcer by the cautery plus gastro-enterostomy. In some cases we will have to content ourselves with the infolding of the ulcer plus gastro-enterostomy or gastro-enterostomy alone, but the first procedure can usually be carried out. Exclusion of the pylorus is not necessary.

In the case of gastric ulcer a conservative and sensible selection of the operative procedure is essential. Excision or destruction of the ulcer is desirable, and should be done if not too dangerous. This should be accompanied by gastro-enterostomy in most cases. The cautery-puncture method of Balfour has proved a valuable aid in the treatment of these ulcers.

In brief, it may be said that ulcers at or near the pylorus should be excised or destroy-

ed with the cautery. The Rodman operation, being a considerably more serious operation, should probably be reserved for cases in which cancer is probably present.

Ulcers on the lesser curvature should be excised or punctured by the cautery. In the case of large ulcers of the body of the stomach, sleeve resection gives a better mobility of the stomach than when the greater curvature is left. In large ulcers on the posterior wall transgastric excision is often satisfactory, though the Polya operation is valuable in some of these cases.

Perforation.—In the average case of acute perforation the diagnosis is easy. There is great pain, vomiting, fall of temperature, rise in pulse, shock occasionally, and early rigidity followed in 10 to 11 hours by distention and obliteraion of liver-dulness. Shock is usually no contra indication to operation. The perforation should be sutured and the suture reinforced by an omental flap. Excision of the ulcer is not necessary. A primary gastro-enterostomy should be performed, both in gastric and duodenal perforations, if the condition of the patient will permit. This is especially important if the suturing has produced any stenosis, and if there is danger of the suture leaking. The free fluid should be wiped out with sponges, flushing of the abdomen being rarely necessary. The abdominal wound is usually drained and sometimes a suprapubic drain is advisable.

The results of operation for perforated gastric and duodenal ulcer, when done early, are very gratifying. During the last three years we have operated upon six of these cases, five in the duodenum and one in the stomach, with only one death. This was a perforated duodenal ulcer, in which the perforation occurred 48 hours before he was admitted to the hospital. The fatal case was the only one in which gastro-enterostomy was omitted, on account of the grave condition of the patient, and the only one in which suprapubic drainage was considered necessary.

Hemorrhage.—In the case of hemorrhage from the stomach it is, of course, very important to determine whether the hemorrhage is due to intrinsic or extrensic causes. Fortunately, a careful history and X-ray examination will usually determine whether an ulcer is present, but not in all cases.

It is generally conceded that profuse hemorrhage from the stomach is best treated by medical means, as the vast majority of these hemorrhages cease spontaneously. In the severe cases transfusion of blood is of great value. The indication for operation would be repeated or continued hemorrhage which is exsanguinating the patient. It we have good reasons to suspect ulcer, operation is more clearly indicated, and if at operation a definite ulcer is found, we should stop the bleeding by ligation of the vessel or vessels, by inversion of the ulcer, or still better, by excising or cauterizing the ulcer. If the condition of the patient permits, gastro-enterostomy should also be done.

The most unsatisfactory cases are those in which at operation no definite ulceration is found, even after the stomach is opened, and no evidence of active hemorrhage. In some of these cases the hemorrhage is due to causes extrinsic to the stomach, but in others it is due to very superficial erosions of the mucosa, which cannot be discovered at operation. For the latter cases Moynihan has advised simply doing a gastro-enterostomy, but this is of uncertain value.

My experience with operation for marked gastric hemorrhage has not been a very happy one. On one or two occasions I have operated for hemorrhage, found nothing to account for the hemorrhage, and the patient has gotten well in spite of me. Last year I operated upon a patient who had repeated large hemorrhages from the stomach, and in whom we strongly suspected a gastric ulcer. At the operation I could make out no evidence of ulcer; nevertheless I did a gastro-enterostomy. The hemorrhages recurred after the operation, and the patient died in spite of all that we could do. At the autopsy numerous large superficial erosions were found in the gastric mucosa.

Hour-glass Contraction.—The X-ray has been of great aid in the diagnosis of hour-glass stomach, and has given us valuable information regarding the size of the pouches. In 1917, Downes reported 17 cases of this condition which had been operated upon at St. Luke's hospital, with one operative death. There were 16 females and one male in the series. Fifteen cases had been observed for an average period of two and a half years after operation and one for more than nine years. The 15 patients surviving at the time of his report were examined and checked by

radiographs. All had gained in weight, and with one exception, were practically free from the symptoms for which they sought relief. We should not overlook the fact that a pyloric stenosis may also be present.

Some of the operative procedures which are done for hour-glass contraction are: (1) gastroplasty; (2) gastro-gastrostomy; (3) single or double gastro-enterostomy; (4) mediogastric resection; (5) pylorectomy, where distal pouch is very small. An objection to the first three methods is that the ulcer itself is not removed or destroyed. The last two methods are operations of considerable magnitude.

According to Downes, mediogastric or sleeve resection is the ideal operation for hour-glass deformity, provided the pylorus is not stenosed, and should be performed in all suitable cases. Unfortunately, it is limited to the cases with few adhesions, and in which the pouches are fairly large and permit of free mobilization. It is a rather extensive operation, and should probably not be done in weak cases.

In a recent article A. J. Walton, of London, England, has strongly recommended an elliptical excision of the ulcer, including a considerable portion of the lesser curvature, followed by a transverse closure and gastro-enterostomy. By this operation the cardia and pylorus are sometimes rather closely approximated, and we would fear considerable interference with gastric motility.

NOTE:—We regret that Dr. Edward McGuire was unable to send us his paper on the Medical Treatment of Gastric and Duodenal Ulcer in time for publication in this issue.

We were also unable to secure for publication several discussions of papers used this month.

DISCUSSION.

Dr. J. Shelton Horsley, Richmond, said that the treatment of gastric and duodenal ulcer, to be effective, should be based on the physiology of the stomach and intestines and the pathology of the disease which is being treated. He said that the work of Meltzer, Langley, Cannon and others, had demonstrated that the stomach and intestine are supplied with sensory nerves, which is contrary to the view formerly held by Lennander. These sensory nerves of the stomach terminate in the muscular coat and do not reach the musosa. In the region of the ulcer, they become supersensitive from the inflammation, and the pressure of peristalsis makes them register pain which, if they were not rendered supersensitive by the inflammation, they would not do. The acid erosion of the gastric juice on the ulcer has nothing to do with the pain, except that excessively acid gastric juice causes increased peristalsis. Reducing the acidity of the gastric juice by food decreases peristalsis and so lessens pain. The ulcer may exist, however, without pain, probably because the sensory nerves of the stomach are sometimes more sensitive than at other times, just as an ulcer on the leg or a corn on the toe will sometimes be more painful than at others. Because there is no pain does not necessarily mean that the ulcer is cured. Gastro-enterostomy causes relief of pain in many cases of ulcer but not in all. Frank Smithies, who was formerly gastro-enterologist at the Mayo Clinic and now is at the Augustana Hospital, Chicago, published a paper about two and a half years ago in which he reported 273 patients on whom gastro-enterostomy had been performed. Only 20.9 per cent of these patients were complaint free. Gastro-enterostomy is emphatically not a physiologic operation. The object of surgery should be to remove or correct the pathology and restore the diseased organs as nearly as possible to their normal physiologic condition. This is best done by excising the ulcer and by a pyloroplasty which puts out of commission temporarily the actively contracting pyloric end of the stomach, just as you paralyze the sphincter ani when operating upon an ulcer in ano.

Dr. VanderHoof, Richmond:—The important question that faces the doctor when he establishes a diagnosis of peptic ulcer is that of treatment, and in every individual case it is necessary to decide whether medical or surgical treatment should be advocated.

In coming to this conclusion, we may properly be guided by three principal facts. The first of these is the location of the ulcer, which can be determined accurately only by proper X-ray studies. If the ulcer is in the stomach proper or at the pylorus, it is my custom, almost invariably, to advise surgical treatment, the reason being the well-known tendency of ulcers in such locations to become malignant. Of course, the duration of the symptoms and the age of the patient are factors to be considered. If the ulcer symptoms are of short duration and the patient is under the age of forty, we may feel justified in advocating medical treatment; otherwise, in such locations surgical treatment is indicated.

The second factor in regard to medical versus surgical treatment of peptic ulcer is the question of complications—patients with other inflammatory lesions within the abdomen, such as chronic appendicitis, gallbladder disease, perigastric adhesions, etc., cannot be successfully handled by medical treatment.

A third big factor is the question of the temperament of the patient. Medical treatment to be successful must be carried out with peculiar persistence and regularity over a period of more than eighteen months, perhaps two years. During this time the patient must take his treatment every single day. Dr. Watts and Dr. McGuire have explained to us that in performing a gastroenterostomy we secure a regular and automatic neutralization of the gastric acids by the entrance into the stomach of alkaline secretions from the artificial juncture of the duodenum and stomach. If the individual can neutralize this acidity himself, by frequent feedings and the proper use of alkaline medicines, and can do this persistently every day over a certain period of time, the ulcer can be cured. Really, the best argument for the adoption of medical treatment is a study of the method of cure after gastroenterostomy. Much depends, however, on the temperament of the patient and his ability to neutralize the gastric acidity and keep it neutralized, as regularly and as automatically as a successful gastroenterostomy will do it.

REPORT OF A CASE OF RESTORATION OF THE BILE PASSAGE.*

By JOSEPH D. COLLINS, M. D., Portsmouth, Va.

During the past several years much interesting and valuable work has been done in the restoration of the bile passages.

These operations are indicated in cases of benign stricture of the common bile duct, in persistent biliary fistulae, resulting from injuries to the hepatic or common duct, and also in cases of obstruction of the common duct by a stone which cannot be removed by operation. A number of different methods have been devised to restore the passage of bile, but none have been entirely successful in every case. The operation best suited to the individual conditions present will give the best results.

I have nothing new nor original to present, but wish to report a case of complete obstruction of the common bile duct that has been apparently relieved by an operation which seems to be the least rational of all that have been suggested.

Mrs. E. A., aged thirty-six, was admitted to the hospital on August 26, 1918. She gave a history of repeated attacks of upper abdominal pain radiating to the right shoulder and back. Her first attack occurred twelve years ago, and recurred at long intervals. Recently the attacks came more frequently, and during the three months preceding admission, came almost weekly. She was chronically jaundiced and very emaciated. The taking of solid food would usually precipitate an attack of colic. There was constant discomfort in the epigastric region. She had chills and fever at frequent intervals. Her urine was loaded with bile and her stools almost clay colored.

Operation revealed a distended and very much thickened gall bladder containing forty-three stones and about six ounces of purulent bile. Adhesions were very dense, and the gall bladder and ducts were exposed with considerable difficulty. The ducts were greatly enlarged and edematous, the common duct being about one inch in diameter. Cholecystectomy was done. Upon passing the flexible probe into the common duct a large stone was found about one-half inch beyond the junction of the cystic and hepatic ducts. The common duct was split up and stone removed. The flexible probe was then passed into the duodenum, but only after considerable manipulation. The swollen and edematous mucous membrane was apparently occluding the lumen of the duct. The probe passed readily back into the hepatic duct. A rubber tube was sewed over the split stump of the cystic duct and the wound closed. Her convalescence was very satisfactory. Her pain was relieved and appetite returned. Bile drainage was very profuse, with only slight improvement in the color of her stools.

At the end of the fifth week the drainage almost stopped and her stools were practically normal. The tube was removed, and for ten days all went well. Then her bile drainage returned and her stools again became clay-colored. This condition continued several days, and then for several weeks her drainage became very slight and serous in character. These attacks of obstruction, alternating with periods of relief, continued until February, 1919, when obstruction again became evident and persisted up to the time of the second operation two months later.

The obstruction was complete, all of the bile coming through the fistula. Chemical examination of her stools failed to show the slightest trace of bile pigment. Her general condition became bad and she rapidly lost weight.

Fearing that a stone in the common duct had been overlooked, or that a recurrence had taken place, a second operation was undertaken on April 21, 1919. It was hoped by this operation to remove the obstruction, or, failing in this, to anastomose the hepatic duct to the duodenum. Upon opening the abdomen through the pararectal scar, very dense adhesions were encountered. The duodenum was adherent to the under surface of the liver, along the bed of the gall bladder and also to the abdominal wall. Between the liver and the duodenum the biliary fistula emerged to open upon the skin. The duodenum was freed from the abdominal wall with some difficulty, but no attempt was made to separate the duodenum from the liver. It seemed impossible to do so without stripping either the liver or the intestine of its peritoneum.

The exposure of the common duct appeared hopeless. The tract of the fistula through the abdominal wall to the skin was completely dissected out. This fistulous tract became a well organized tube of connective tissue about

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

one-quarter inch in diameter. A section of a No. 12 French soft rubber catheter was inserted into the open end of the fistulous tube for the distance of two inches. This was secured with one stitch of catgut. Four inches of the rubber tube projected beyond the end of the fistulous tube. At a point opposite the margin of the liver a stab wound was made into the duodenum. The fistulous tube with the rubber tube projecting from its distal end was turned into the lumen of the intestine and the stab wound closed with a purse string suture. The intestine was then drawn up and sewed after the manner of the Witzel operation. The anastomosis was further strengthened by sewing over it a tag of omentum.

The abdominal wound was closed without drainage. Nothing was given by mouth for five days. On the third day a copious bilious stool was passed, the first for two months. Her recovery was quick and uneventful. The rubber tube was passed on the sixteenth day.

Her digestion is normal and she is free from pain. She has gained thirty-five pounds in weight. She is apparently perfectly well. I realize that there is grave danger of cicatricial contraction in this fistulous opening into the intestine, with recurrence of obstruction. Just how long this fistulous tract, which is not lined with epithelium, will remain patent is problematical.

A search through the literature disclosed only two cases where this method of repair was adopted, and both were unsuccessful.

314 *Court Street.*

DISCUSSION.

Dr. J. Shelton Horsley, Richmond, Va., said that the report of Dr. Collins was very interesting. Reconstruction of the bile tracts is best done by uniting the mucosa and submucoca of the duodenum to the mucosa and submucosa of the stump of the bile duct, along the line that has been elaborated and practiced by Dr. Wm. J. Mayo. Many types of operations have been devised in which other tissue was used to reconstruct the bile ducts.

Dr. Horsley had personally experimented in dogs with a segment of vein which was turned inside out. This works nicely at first but finally contracts and becomes occluded. The trouble with reconstructions of the duct by means of transplanted fascia or vein is that the transplanted tissue has no natural immunity to the irritating effects of the bile and will, consequently, be so much irritated by the bile that excessive production of scar tissue is formed and occlusion occurs. We know that there is a biological immunity to irritating discharges wherever these discharges normally occur. For instance, suturing of the bowel ordinarily is expected to heal satisfactorily, though fecal matter is constantly flowing across the sutured intestine; whereas, a wound in the skin over which fecal matter flowed would almost never heal, or else, would unite with an enormous scar. If it is impossible to unite the mucosa of the duodenum to that of the bile tracts a tube drainage between the two points can be used and the neighboring tissues or omentum wrapped around the tube as advocated by Sullivan. These neighboring tissues have more immunity to the irritating effects of the bile than tissue transplanted from a distance.

EPIDEMIC ENCEPHALITIS LETHARGICA WITH ESPECIAL REFERENCE TO ETIOLOGY AND PATHOLOGY.*

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and
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There appeared in the *Lancet* (English) July 6, 1918, an article entitled "Epidemic Encephalitis," by S. A. K. Wilson, who discusses the occurrence in England of a number of cases which might be classified as acute encephalitis, or polioencephalitis, but which do not conform to any rigid type. He describes the cases under consideration as a nervous disease presenting features sufficiently indicative of encephalitis and characterized by pathological drowsiness amounting, not infrequently, to stupor. Wilson tentatively puts forward the following conclusions: Epidemic encephalitis is an acute nervous disease characterized by general and localized symptoms; it attacks both sexes, irrespective of age; its onset is acute, and, occasionally, it is fulminant in type. The general symptoms are: apathy, lethargy, drowsiness, pathological sleepiness; stupor, absence of initiative. Restlessness, catatonia or flexibilitas cerea is frequent. Delusions and hallucinations may occur, also incontinence, headache, giddiness and vomiting.

In the *British Medical Journal* of October 26, 1918, A. J. Hall, under the title "Epidemic Encephalitis," says: "Is this, or is it not, an epidemic of poliomyelitis? If it is not, then it may be either an entirely new disease, or one that until recent times has not been observed in epidemic form. The clinical resemblances, such as there are, between these cases and poliomyelitis were recognized from the first." In his paper he calls attention to the absence of cases of "localized limb paralysis commonly seen in acute poliomyelitis. Lethargy and asthenia, so severe and prolonged in most of the cases of encephalitis, are not recorded as occurring in typical cases of polio-

*Read at the fiftieth annual meeting of the Medical Society of Virginia, in Richmond, October 28-31, 1919.

myelitis, either sporadic or epidemic. In fact, if one takes away the palsies from these cases of encephalitis, little remains which is common to them and to poliomyelitis."

The above papers are abstracted rather fully in the *Journal of Nervous and Mental Diseases* for February, 1919.

From the *United States Public Health Reports* of February 21, 1919, the following is abstracted: Evidence shows that cases of encephalitis lethargica occurred in Germany in the seventeenth and eighteenth centuries, and Italy and Hungary in 1890. In nearly all countries of Europe and the United States the disease appeared in 1895; it was found in Austria in 1916 and 1917, and in England last year. The cases were few and scattered, and no large outbreaks occurred.

Bacteriological investigations have been negative. It is probably due to specific virus that enters and leaves the body through the nose and mouth.

Dr. I. P. Battle, of Rocky Mount, N. C., has kindly furnished me with the following from the The Annual of the Universal Medical Sciences, Sajons, (Issue of 1891, Vol. II, Page A-39), on Nona, or Sleeping Sickness, by Landon Carter Gray, M. D., assisted by W. B. Pritchard, M. D., and R. C. Shulz, M. D. During the past year a peculiar sickness, characterized by a state of more or less profound and long-continued somnolency, and ending, as a rule, in death, has been observed as a limited epidemic in certain parts of Italy and Hungary. To this disease the name "Nona" has been given by the peasantry, and numerous contributions have filled the local medical press upon the subject. Ketli, of Buda-Pest (*Internationale Klinische Rundschau*, Vienna, June 29, 1890), who officially investigated the malady at the instigation of the Hungarian government, reached the conclusion that the disease as a distinct entity did not exist. Trautjen, on the other hand, (*Berliner Klinische Wochenschrift*, Berlin, June 2, 1890), who observed three cases, with an autopsy in one, is disposed to accept the term "nona," although he considered the disease to be a cerebrospinal meningitis running an abnormal clinical and pathological course. This peculiar course he attributed to *the influence of the recent epidemic of influenza.*

Hammerslough (*Weiner Medizinische Presse*, Vienna, May 11, 1890), describes a case of nona, or sleeping sickness, occurring in a boy aged 14, whom he had treated for influenza three months previously. The boy was seized while at work with a feeling of general depression and of pain in the temporal and occipital regions. Some hours afterwards he went to bed, fell asleep, and could not be awakened. He slept five days, then began to awaken, and four days later had fully recovered consciousness. The boy had been previously healthy except for the influenza, of good habits, and there was no trauma. During the sleep there were no motor disturbances or loss of power whatever, and no sensory involvement, except the anesthesia, which was marked over the forehead, both sides of face, nose, chin, upper neck, and anterior thoracic surface to the axillary line. The anesthesia was limited, as above, and disappeared with recovery.

Ludwig Mauthner (*Weiner Medizinische Wochenschrift*, Vienna, June-July, 1890.) contributes an elaborate essay upon the pathology and physiology of sleep, with observations upon nona, if its existence be admitted, which he seems to believe should be done. This author believes, with Wernicke, that the pathological lesion involved is that of a polioencephalitis superior, the inflammatory process occurring in the central gray substance of the third ventricle and of the front part of the floor of the fourth—the symptoms being sleep and ptosis with or without paralysis of one or more of the muscles of the eyes.

Major Pathier in an article entitled "Lethargic Encephalitis" in the *Journal of the American Medical Association*, March 8, 1919, reported eight cases with one autopsy of indefinite findings due to post mortem deterioration in the brain and cord.

A special article and an interesting editorial appeared in the *Journal of the American Medical Association* of March 15, 1919.

In the public press of Saturday, March 8, 1919, Dr. C. St. Clair Drake of the Department of Health, Illinois, made a report of what has been improperly termed "sleeping sickness" and ordered isolation. This action was taken after the department was officially notified of the existence of five cases and two deaths at isolated points down State, and of the reported spread of the disease in Evanston and other North Shore suburbs of Chicago.

For some weeks prior to the last publication I had been puzzled by certain cases of somno-

lence appearing in my consultation and private practice. Seven of these cases seemed to fit the conditions variously above described and the matter was taken up with the State Board of Health of Virginia on March 8, 1919. Since then other cases have been observed.

The State Board of Health of Virginia appointed a committee consisting of Dr. B. R. Tucker, chairman, Major E. C. Levy, Dr. McCaw Tompkins, Dr. McGuire Newton, and Dr. S. W. Budd. This committee met and discussed many of the early cases and I published in the *Journal of the American Medical Association* an article entitled "Epidemic Encephalitis Lethargica," May 17, 1919. My experience altogether has been with about forty cases. These cases do not comprise certain forms of insanity, hebetude and cranial nerve palsies without somnolence, which has been so common following the influenza epidemic. My experience is that the incidence of sex, race or age are of no importance in the etiology. The condition seems to be either a manifestation of influenza as a complication, or a recrudescence of influenza, or an expression of influenza in a cerebral form. This we gather from the history of the disease, our own experience and from contemporary medical literature.

The interesting points in encephalitis lethargica are the somnolence, which has varied in my experience from one day to one hundred and twenty-nine days, the occurrence of various transient cranial nerve palsies, the finding of choke disks, increased cerebro-spinal fluid pressure, leukocytosis of the cerebro-spinal fluid and blood and increase in the urea content of the blood, many and varied changes in the superficial and deep reflexes, with at times muscular rigidity and at times flaccidity. There are many interesting points in the pathology of the condition which will be brought out by Dr. Budd, not the least among which is the fact that we discovered in our autopsied cases that the pitnitary gland was markedly involved and we deduct therefrom that the somnolence is chiefly due to pituitary gland involvement.

Dr. S. W. Budd's Report.

In reviewing the reports of the recent epidemic in this country, one is struck with the fact that few cases came to autopsy and that the morbid anatomy in these cases was meagre. Bassoe, of Chicago, and Wegeforth and Ayer, at Camp Lee, Virginia, gave the results of their findings which conform very closely to ours.

According to Bassoe the pathological changes consisted of edema, congestion and minute hemorrhages scattered through the stem of the brain. Histologically he found a perivascular inflammation in the brain stem and basal ganglia. There was little evidence of necrosis or tissue destruction in the brain. No changes were noted in the cortex or in the meninges.

Wegeforth and Ayer reported the same findings, except they were able to demonstrate definite meningeal involvement and a greater degree of engorgement of the vessels of the cortex. These authors particularly emphasized the fact that the type of cell found in the perivascular inflammation was mononuclear rather than polymorphonuclear.

In our cases the engorgement of the vessels entering the longitudinal sinus was enormous, some of the vessels varied in size from ¼ to ½ inch in diameter. The amount of meningeal involvement seemed to be greater than in the cases recorded by Wegeforth and Ayer and we were able to show definite adhesions between the base of the brain and the nerves emerging from the brain in this region. Microscopically, the meninges were infiltrated with mononuclears, polynuclears, blood and fibrin. The infiltration, like elsewhere in the brain, was of the perivascular type, but in some regions exudative cells were found quite remote from the vessels. In one of our cases the dilatation of the ventricles was enormous, while in the other there was no change in size of the cavities of the brain. Bassoe, Wegeforth and Ayer made no mention of pathological process in the pituitary body—we found an enlargement, an engorgement, a parenchymatous degeneration, an exudation of leukocytes both mononuclear and polynuclear in the anterior as well as the posterior lobe of the pitnitary.

Case 1. The skull was opened in the usual manner. After removal of the skull-cap it was noticed that there was considerable congestion of the dura and underlying tissues, and that along the longitudinal sinus there were many varicosities on each side in the region of the fissure of Rolando. On removal of the dura it was noted that all the membranes were attached to the cortex for 1½ or 2 inches on each side of the longitudinal sinus.

Elsewhere the brain was in no way adherent to the membranes. On removal of the brain there was noticed a thin, delicate, inflammatory membrane over the base and extending well up over the temporal lobes of the brain. This membrane was prominent around the cranial nerves, the pons and the medulla, and there were a number of cobweb adhesions between the cranial nerves and the brain. On section of the cortex of the brain the capillaries were distended, but there was no evidence of macroscopic hemorrhage. The lateral and third ventricles were not dilated. There was no evidence of congestion or hemorrhage in the region of the fourth ventricle. On section through the cerebellum the tissues looked normal. Microscopic examination of the cortex of the temporal lobes showed a slight enlargement of the capillaries, with occasional mononuclear and polymorphonuclear leukocytes around the capillaries, and the individual nerve cells seemed a little larger than usual. The pia mater and the arachnoid were infiltrated with a moderate amount of fibrin, mononuclears and polymorphonuclear leukocytes, and the capillaries were much distended. The medulla, pons and cerebellum showed the same histological changes as the cortex. Cultures from the base of the brain and the meninges were negative for pathogenic organisms. The pituitary body was much congested and infiltrated with blood cells into the tissues. There was also some cloudy swelling of the cells of the pituitary body. This congestion was in both the anterior and posterior lobes of the gland.

Case 2. Lethargic encephalitis. The skull was opened in the usual manner. After the removal of the skull-cap it was noticed that the veins entering the longitudinal sinus were much enlarged and engorged. The cortex of the brain was soft, edematous and congested and the gyri were flattened. On each side in the region of the fissure of Rolando there was a zone which differed considerably from the surrounding brain. This area was about an inch and a half in diameter and was yellowish in color and putty-like in consistency. On the under surface of the brain there were numerous adhesions extending between the several portions of the brain and especially noticeable around the region where the nerves emerge from the brain substance. On opening the brain the ventricles and the aqueduct of Sylvius were enormously distended. The foramen of Monro would admit four fingers, the acqueduct of Sylvius would admit three, and the lateral ventricles the first. The cortex over the yellow area showed an extension of this process well into the substance of the brain. The gray matter of the cortex was much thinned and in the region of the fourth ventricle and in the floor of the lateral ventricles the nuclei were much distorted by the distended ventricles. The pituitary body was enlarged and congested.

Microscopically the cortex of the brain exhibited but little change. The meninges were infiltrated profusely with mononuclears, polymorphonuclears, leukocytes, blood and fibrin. Occasionally in the cortex one would find a blood vessel with a slight perivascular inflammation but this was not a noticeable feature. There was no necrosis or degeneration of brain matter. In the pons, the medulla oblongata and cerebellum were zones of perivascular inflammation and minute hemorrhages. The pituitary body showed considerable changes both in the anterior and the posterior lobes. In the anterior lobe there was a slight enlargement of the sinuses and a cloudy swelling of the parenchymatous cells, while in the posterior lobe there was an infiltration of leukocytes and blood cells into its substance. In the necrotic area of the cortex there was an absence of brain cells and the presence of many phagocytic cells which were filled with ingested blood pigment.

DISCUSSION.

Dr. J. D. Willis, Roanoke: In the discussion of lethargica encephalitis, I would like to report one case in which the pathology is clinically proven. This was a case that came under the observation of doctors in Roanoke one year ago. The case was considered lethargica encephalitis due to influenza. A woman of 32 was in a home where there were a number of cases of influenza, herself not being affected with the disease. She slept without interruption for three days and two nights with drowsiness before and afterwards. She has been apparently well although quite anemic since the attack. Just recently she developed the second attack of lethargic encephalitis. She could be aroused to take nourishment but would immediately go back to sleep. In attempting to talk she would go to sleep without finishing the sentence. In this case she had choked discs and also drooping of the upper eyelids. The Wassermann in this case was positive. The patient recovered from the sleeping state.

Dr. Tom Williams, Washington, D. C.: In 1918, while in France, I saw cases of encephalitis but had no chance to follow them up.

It is really a very old disease, having occurred in ancient times as well as in the Middle Ages, seemingly in conjunction with catarrhal epidemics so that its

present coincidence with the ravaging influenza is not singular.

Tucker did not allude to some studies in which it is claimed that encephalitis is due to a specific organism as some believe. In view of its rarity during the great poliomyelitis epidemic of 1907, as well as those of 1910 and 1916, it is scarcely likely that the organism of that disease is responsible.

A patho-genetic hypothesis may be ventured, however, that it is a specific disease to which human beings are highly resistant; but that this resistance is lowered as it is towards coccal disease by an attack of influenza. The high resistance of human beings is attested by the large percentage of recoveries, in spite of the fact that the brain stem itself, the seat of the vital centres, is usually attacked.

Nevertheless residua occur and it is on account of these that the Neurologist sees most of his cases. The commonest of these I have found to be coarse tremor due to the implication of the cerebellofugal fibres. Such manifestations are sometimes mistaken for chorea, but they have not the twitching character seen in that disease. They are not twitching of muscle bands, but they are jerky oscillations of the segments of the limbs.

The somnolence has to be diagnosed from that found in hypopituitary states. In these latter it is, however, insidious and only accompanies other signs, such as some of the following: adiposis, hypotrichosis, hypogenitalism, chilliness, increased toleration of carbohydrates, polyuria, alteration of reaction to endocrine substances, perversities of behavior including psychic dyskinesias.

While the somnolence in encepbalitis may be due to interference with pituitary functions, it is acute in onset and none of the trophic signs occur. However, during the past ten years I recollect three cases of prolonged somnolence without any definite sign of pituitary disease and without any paralysis, all of which recovered completely and which still remain an etiological puzzle.

Dr. Tucker closing the discussion: Unfortunately the title of this paper in the program was Lethargic Encephalitis while the paper is really only on the etiology and pathology of lethargic encephalitis.

I noted all the various symptoms to which Dr. Vest called attention but aimed to mention only those concerned in this paper. The clinical description was taken up in my previous paper published May 17, of this year in the **Journal of the American Medical Association.**

I was very much interested in a great many things in this discussion, but it will take too long to go into all today. Dr. Vest's finding that the spinal fluid was practically normal is at variance with nearly everybody who has studied this disease in quantity. In my cases the cell count varied from about 15 to upwards of 200. All the cases showed an increased amount, I think, except two cases. The eleven I reported and probably some twenty-eight or nine since showed an increase in globulin, though there may be one or two that escape my memory right now. In each case there was an increase in spinal pressure. In some the spinal pressure was measured with a menometer.

The fact of a distinct organism being found in lethargic encephalitis has never been accepted, that is, it has never been accepted by the United States Public Health Bureau and the Rockefeller Institute.

Now the reasons why we think this disease is probably connected with influenza are two: first, it closely followed our late epidemic, and secondly in literature, a great deal of which I abstracted, the disease occurred in 1890 and 1891 following the grip (or influenza) epidemic of 1889 and 1890. Then it was not reported in this country in any amount until 1895, when we had a slight epidemic of grip or influenza, after which it died down. We did not see these cases until they followed the influenza epidemic last year. If you see a dog following a man around all day you are liable to think that the dog belongs to the man. You may be mistaken about it, but that is what you naturally think. I believe, therefore, that we have pretty good cause to believe that lethargic encephalitis does have a definite connection with influenza.

Now, the only difference between the cases that we have all seen of the various cranial nerve palsies, diplopia, insomnia and psychosis following influenza and lethargic encephalitis, is the somnolence and, with the pathological picture before us of the hypophysis being invaded it leads us to believe that the pituitary gland invasion accounts for the somnolence.

We have seen a certain amount of hemorrhagic extravasation in these encephalitis cases but the hemorrhagic condition has not been pronounced enough to believe that they were purely hemorrhagic encephalitis. Bassoe, for instance, who is a very renowned pathologist, views the hemorrhagic pathology, I believe, about as we do.

SOME UNIQUE FACTS PERTAINING TO THE MEDICAL PROFESSION AND THE WORLD WAR.*

By B. C. KEISTER, A. M., M. D., Roanoke, Va.

Since the great World War is over, and the victory honorably won, the time for Reconstruction and Rehabilitation and the healing of old wounds should be the order of the day. Then, as a profession, let us hold dear the honor and glory that she has so nobly won in the great drama, and ever keep before us the high standard and dignity to which she has attained.

When we consider the 33,000 enlisted medical men that were sent "*over there*" besides the large quota of patriotic volunteers of the profession, who answered the *last call* under the banner of "Volunteer Medical Service Corps," and with the ONE PATRIOTIC OBJECT IN VIEW, that of winning the war for civilization and humanity, we may well say, *the medical profession was strictly on the job*, and is worthy a *high place* in the future history of the war.

In our great enthusiasm to win the war, it was but natural that some oversights and grievous mistakes should occur on the part of our Federal and State Boards in the selection of the best trained men to cope with the serious epidemic diseases, and in the selection and supervision of some of the cantonments.

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*Read at the fiftieth annual meeting of the Medical Society of Virginia, in Richmond, October 28-31, 1919.

camps and field hospitals. These oversights gave rise to much criticism on the part of the laity and we may add, deservedly so, when we consider the high rate of mortality among our soldier boys from disease contracted in camp-life that might have been prevented, had *more mature efficiency* been available. Every up-to-date medical man who has had ten years' experience in the practice of medicine, well knows the danger and risk of that fell disease Pneumonia, which has been the "Nightmare" of the medical profession for past ages. He also knows the greater hazard when supervening influenza, measles, or meningitis, requiring the very best skill and trained nursing to cope with these conditions.

In the writer's judgment, these conditions could have been met had the stipulated "age-limit" been extended, and our Volunteer Medical Corps been permitted to take charge of some of the cantonments, field and base hospitals, where the most serious epidemics prevailed. While I would not in the least degree reflect upon our noble young graduate M. D.s who went to the front to do their bit, yet the great task of treating these serious epidemic diseases was too embarrassing for any but the most skilled and mature practitioners of medicine. The astounding statement has been published in the daily papers that "*out of every one hundred enlisted surgeons that had charge of the various hospitals, only six had ever done any major surgery.*" This statement also applied to the young graduate *practitioner* in the treatment of diseases, such as pneumonia, typhoid and typhus fevers.

I may ask the question, Who in this assembly would care to have himself or his son operated upon for gall-stone, appendicitis or trephining of the skull, in the event of a "*Hun shrapnel-shell wound*," or treated for pneumonia, meningitis or typhoid fever, by one of our young graduate M. D.s or hospital internes, though he may have graduated from the very best medical school and passed all of the State Boards?

We are all familiar with the many handicaps which the young graduate M. D. must face when he begins the practice of medicine and surgery, more especially, when called to treat a case of major surgery or a serious case of double pneumonia, with no one more competent than himself to consult on the advisability of the proper course to pursue, when the patient's life is hanging in the balance, depending wholly on the proper exercise of good judgment and skill.

College lectures, text-books and hospital clinics are all good and essential, but w comes to saving life on the battlefield or in the emergency hospital in times of war, there are other essentials in demand, such as *aplomb*, *a skilled and discriminating judgment*, a trained and steady hand, etc. These accomplishments, with but few exceptions, are attainable only by careful study and practical experience long after graduation, regardless of the high standing of one's *alma mater*.

I became more thoroughly convinced of the truth of the above statements when I learned, through authentic reports, that over 41,000 of our soldier boys died of pneumonia, over 2,000 from meningitis and an equal number from tuberculosis, besides over 3,000 from other diseases—diphtheria, scarlet fever, typhoid fever, dysentery, small-pox, malaria, etc.—totaling about 50,000 deaths from diseases that might possibly have been prevented, in a great measure, with better hygienic management. The death rate from Influenza at Camp Sherman during the great war, in the fall of 1918, was surpassed only by that of Plague in London in the year 1665, when 14 per cent. of London's population died within seven months. (J. A. M. A.)

It would naturally appear to a casual observer, from these startling reports from Camp Sherman, that we are getting back into the "Dark Ages," when epidemic diseases like cholera, yellow fever, small-pox, bubonic plague, etc., held sway, destroying the nation even more than the horrors of war.

When we consider the fact that Camp Sherman is located in or near the Appalachian system of mountains, with ample drainage and fairly good sanitary conditions, there certainly must have been some mismanagement or lack of mature skill on the part of our medical supervisors in charge.

With all due deference to our distinguished Federal Board, who set the age limit debarring physicians and surgeons who had reached the age of 55 years, regardless of *past experience* and *efficiency* in their special lines of work, the writer is strongly of the opinion that this was one of the *gravest oversights* on the part of the whole medical department pertaining to the war. And I may add, if it had

not been for the patriotism and self-sacrifice of our distinguished physicians and surgeons who had passed the age limit, but *volunteered* for *humanity's* sake to do their bit toward relieving the situation, I fear the worst would never have been told. Then all honor to Finney and Thayer, and the many other noble, patriotic medical men whose efficiency and chivalry won the title of Brigadier General. In the writer's opinion, a medical man, if he is normal every other way, both physically and mentally, at the age between fifty and sixty, should be at his very best for proficiency in the ordinary practice of his profession. It would be an everlasting discredit to the medical profession to debar on account of the present age limit from doing regular hospital work at home or abroad, such men as Gerster, Young, Barker, Keen, Osler, Welch, White, etc. In the writer's judgment, there is but one solution to this great question, which will prevent a repetition of these oversights in the event of future wars, namely: *A medical man like Welch, Gorgas, or Osler in the President's Cabinet at Washington, as Secretary of Public Health and Preventive Medicine.*

If you will pardon the seeming digression, there is one other phase that I wish to briefly discuss while on the subject of the great war and its effect on the medical profession. As stated in the outset of my paper, the order of the day is reconstruction, rehabilitation and healing of old wounds. While I would not be guilty of detracting in the slightest dgree from the honor and glory achieved by our young colleagues who went so nobly to the front, or those that were in the cantonments on this side, yet as one of the "Old Timers," who has been in the harness for over a quarter of a century and was debarred from the privilege of joining the colors at the front, but sent his only son, a first lieutenant in charge of one of the departments of mobile hispital, No. 39, I respectfully ask in the name of over 25,000 respectable physicians of the United States who stayed on this side and kept the "home fires burning"—I say in the name of these noble *work-horses* who did their bit on this side of the water in fighting disease, buying Liberty Bonds and sending food and raiment to the boys "over there;" I repeat, in the name of Heaven, give these medical men at least some of the credit for winning the war. They do not ask for memorials or monuments to perpetuate their silent deeds of sacrifice for humanity, but they do ask the kindly consideration of their fellows of the medical profession. They do not care to be considered inferior in any respect to those who went to the front, as some of our returned war experts (?) would have you believe.

During my attendance at the recent meeting of the American Medical Association at Atlantic City, N. J., I was somewhat surprised to hear one of the returned war veterans remark before his audience that "the war had been the means of advancing the science of medicine fully 25 years." If this be true, please tell me what our great scientists and laboratory workers were doing all these 25 years, including the war period? If emergency surgery, incident upon war, with all of its varied and complicated wounds, caused by the many new implements of torture, causing both mental and physical distractions, besides camp-life and climatic diseases—I say, if these constitute our main source of information toward the improvement of our great science, I fear we have a long and tedious road to travel ere we reach the much coveted goal of a perfect science. While I am fully aware that war experience in medicine and surgery is a great teacher along many lines, yet, without the careful study and painstaking laboratory work in our great scientific schools in times of peace, there could be but little real progress in medical science.

As a simple illustration, we may take the recent "war epidemic" of that fell disease, "Influenza," which, according to statistics, was the cause of more deaths *during its prevalence*, than all of the implements of war. Yet, with all our boasted progress in both war and peace, we are still "up in the air" as to its real cause and cure.

All honor to our National Council of Defense for the noble work accomplished by them on *this side*, in discovering a means by which to meet and antagonize the *hellish* agencies of torture to which the enemy resorted, such as the gas-shells, grenades, high explosives, liquid fire, etc. It did not require much time for our laboratory workers to discover a gas by which not only to compete with that of the enemy, but also to completely annihilate and put to flight an entire regiment.

Permit me to say, while our noble colleagues were at the front doing their special lines of

work in the various mobile and base hospitals, enduring the hardships of camp-life, besides being exposed to the guns of war, the medical men on this side, who were not eligible to go to the front, were doing their bit for humanity, looking after the financial and humane interests of their brother physicians in war, offering freely their help and sympathy to their families in times of sickness and distress. These and many other silent acts of humanity on the part of the medical man at home should commend him to the kindly consideration of the entire medical profession, giving him due credit for the part he played in winning the war for humanity.

All honor to our Volunteer Medical Service Corps and other heroic volunteers who, though debarred by the stipulated "age limit," went forth to the front and did their bit for humanity, in saving our boys from the "war-dogs" of the *hellish Huns!* All honor to our medical men who were forced to remain at home, and did their mite in caring for the lives and homes of loved ones who were at the front! *But to Hell with the Medical Slacker* and the *American-born Pro-German!*

Proceedings of Societies, Etc.

MEDICAL SOCIETY OF VIRGINIA.

Proceedings of House of Delegates.

(Tuesday A. M.)

A meeting of the House of Delegates of the Medical Society of Virginia was held Tuesday, October 28th, with Dr. E. G. Williams, President, in the chair.

Roll was called and a quorum found present. Dr. Southgate Leigh moved that we take up, first, the financial status of the Society, and the question of the Society buying and owning its Journal and establishing the position of an all time Executive Secretary. The Secretary-Treasurer reported the financial status. (See Treasurer's report to appar later).

Dr. R. B. Tucker stated that the Virginia Medical Monthly could be bought for the sum of $1,000.00, that it was about making its expenses, receiving from advertisements $3,500 and from subscriptions $900. He stated also that The Journal had improved in the scientific matter, carrying more ethical advertising and its appearance was very much improved. It carried more pages, and was a better paying advertisement than heretofore; but it would be necessary to improve the scientific feature of The Journal.

In order to meet the purchase of the Journal and to run it satisfactorily, fees of the Society would have to be increased to $4.00 per annum—$2.00 for membership and $2.00 for the Journal.

In reference to a full time Manager, it was discussed at length by Dr. Leigh, who finally stated that he thought that a newspaper man with a stenographer would be the proper Manager to conduct the affairs of the Society. Dr. E. L. Kendig moved that the President appoint a Committee to consider the whole plan suggested, using the reports of the Treasurer and Publication Committee, and the committee to consist of the President, Secretary-Treasurer, the Chairman of the Publication Committee and such others as the President would appoint. The Secretary-Treasurer was excused from serving on this committee on account of pressing duties. The following were appointed by the President: Drs. Kendig, Tucker, Leigh and Huff.

The President suggested that a committee be appointed to change the By-Laws to meet the above plans of organization. It was moved that the committee meet at 3 P. M. and the House of Delegates at 4:30 P. M.

On motion the House of Delegates adjourned.

(Tuesday P. M.)

A meeting of the House of Delegates was called at 4:30 P. M. On October 28th, Dr. Dickinson in the chair.

The Committee appointed to consider the question of the Journal and the full time Manager, recommended the following, which was presented by Dr. Kendig, Chairman:

Resolved. 1. That the Society purchase the Virginia Medical Monthly at the price of $1,000.00.

2. That the Journal be published monthly by the Society and sent free to each member.

3. That the Society employ a full time man to act as Secretary-Treasurer of the State Society and Manager of the Journal, and an Assistant Manager of the Journal.

4. That the amount of annual dues be increased from $2.00 to $4.00 per year.

This resolution was thoroughly discussed and voted on by sections. The first section was unanimously adopted. The second section was unanimously adopted. A substitute was offered on full time manager in section three, which was defeated; then section three was adopted. A substitute motion to increase the annual dues to $5.00 was offered, which was defeated. Section four was then adopted.

Dr. Peyser presented certain changes in the Constitution and By-Laws which were referred to Committee on Constitution and By-Laws.

The House of Delegates adjourned.

(Wednesday A. M.)

A meeting of the House of Delegates was held at 9 A. M. Wednesday, Dr. E. G. Williams in the chair.

Dr. F. H. Smith presented a request on the subject of formation or component county societies in the southwestern section of the state which was referred to the Committee on Constitution and By-Laws.

The Committee appointed on Constitution and By-Laws was as follows: Drs. E. L. Kendig, H. H. McGuire, C. B. Bowyer, Southgate Leigh, M. W. Peyser, A. C. Fisher and F. H. Smith.

The following Auditing Committee was appointed: Drs. J. R. Garrett, T. G. Hardy, J. H. Hargrave.

The House of Delegates adjourned to meet on Thursday, at 9 A. M.

(Thursday A. M.)

Meeting of the House of Delegates, Thursday, 9 A. M. Dr. R. E. Whitehead in the chair. Roll was called, and sufficient members according to the By-Laws were appointed by the President to make a majority of members.

This Committee on Constitution and By-Laws recommended the following changes in the By-Laws and Constitution, which were adopted:

Article two of the By-Laws—Strike out the words "upon application to the Secretary-Treasurer." Article four, section four, add, "A physician desirous of joining the Medical Society of Virginia and residing in the counties in which a component Society does not meet at least once a year, may have the privilege of joining the State Society by making application in the proper form to the Chairman of the Membership Committee. The Membership Committee shall investigate the applicant, confer with some local society or its officers and, if the applicant is eligible, recommend him for membership." In section eight, strike out the first sentence and add, "The Secretary-Treasurer of State Society shall collect directly from each member of the Society the annual dues of members." In the next sentence strike out the word "two," and substitute the word "one," after "legal notice."

Article seven, section three, in the first sentence of same section strike out the word "two" and substitute "one" after "legal notice." Strike out the balance of the sentence, except "the last," and substitute "January 31st." Strike out "the sum of $2.00," and substitute "$4.00." Article eight, section one, substitute "$4.00" instead of "$2.00."

Article six, section two, after "American Medical Association," add "the Secretary-Treasurer need not be a member of the Society."

Article seven of the Constitution, the Publication Committee should be changed, "two to one." Secretary-Treasurer and Chairman of Executive Council to "one of one," should be Chairman of Executive Council.

The Committee on Scientific work to merge with the Publication Committee.

A motion was made by Dr. C. P. Jones, and adopted:

Resolved, That each component Society of the Medical Society of Virginia shall pass on the character and professional standing of every white practitioner of medicine in its respective jurisdiction and shall control his eligibility in membership in the Medical Society of Virginia.

Clarence Porter Jones,
Southgate Leigh,
R. S. Griffith,
R. L. Williams.

The report of the Executive Council was then read. This Council nominated the following officers, who were elected unanimously by the House of Delegates:

President, Dr. Paulus A. Irving, Farmville.

Vice Presidents, First—Dr. M. J. Payne, Staunton; Second—Dr. Geo. T. Klipstein, Alexandria; Third—Dr. Geo. J. Williams, Newport News.

Secretary-Treasurer, being the Business Manager, to be elected by the Executive Council, at a later date.

Standing Committees:

Membership Committee—Dr. J. A. White, Richmond, Chairman. Membership same as before.

Judiciary Committee—Dr. W. F. Drewry, Petersburg, Chairman. Membership same as before.

Legislative and Public Health Committee—Dr. H. U. Stephenson, Toano, Chairman. Membership same as before.

Publication Committee—Dr. A. G. Brown, Jr., Chairman; Dr. B. R. Tucker, Dr. E. L. Kendig, Dr. A. L. Gray, Dr. P. W. Howle.

Delegates to the A. M. A.—Dr. E. G. Williams, for two years; Dr. C. V. Carrington, Alternate. Dr. Southgate Leigh, for two years; Dr. Geo. A. Stover, Alternate. Dr. W. E. Anderson, for one year; Dr. J. T. Buxton, Alternate.

District Councilors:

2nd. District—Dr. C. R. Grandy, Norfolk, Va.
4th District—Dr. E. L. Kendig, Victoria, Va.
5th District—No election because no nomination.
6th District—Dr. E. P. Tompkins, Roanoke, Va.
7th District—Dr. J. C. Flippin, University of Va.
8th District—Dr. S. W. Maphis, Warrenton, Va.
9th District—Dr. Isaac Pierce, Tazewell, Va.

The following resolution was then presented as signed and adopted by the House of Delegates:

Resolved, That each District Councilor be instructed to make, as early as possible, a survey of the County Societies in his District, taking all necessary steps to increase the efficiency of the existing Societies, and organizing new Societies where such are lacking.

S. Leigh,
R. L. Williams.
C. P. Jones.

The following members were elected to the Executive Council, State-at-Large:

Dr. P. W. Howle, Richmond,
Dr. I. E. Huff, Roanoke,
Dr. R. L. Williams, Norfolk.

Dr. Leigh presented the following resolution, which was adopted:

Resolved, That the Executive Council be requested to consider the advisability of holding annual sessions at Old Point, Hot Springs, or similar resorts.

Further, that its Executive Council develop a plan whereby the cost of entertaining the Society be not borne by the local doctors.

Southgate Leigh,
R. L. Williams,
M. D. Delaney.

Dr. Griffith presented the following resolution, which was adopted:

Resolved, That the Council be requested not to make a selection of officers until reported to the House of Delegates.

Motion made and carried that the Executive Council be given the authority to employ a Secretary and Treasurer until January 31, 1920, and for the ensuing year.

The following resolution was presented, and approved:

Resolved, That Montgomery, Pulaski, Wythe and Washington and Smyth Counties be chartered on our component Society, provided it is proven to the Executive Council that a majority of the physicians of each of these Counties favor the plan.

The Secretary of the House of Delegates was ordered to make to the General Meeting in the afternoon as directed by the By-Laws the annual report of the House of Delegates, report the names of the officers elected and the District Councilors nominated.

The House of Delegates then adjourned.

(The report of the House of Delegates was adopted at the General Session of the Society in the afternoon.)

ROANOKE ACADEMY OF MEDICINE.

At the regular meeting of the Roanoke, Va., Academy of Medicine, held at Hotel Roanoke, December 1, 1919, Dr. A. C. Broders, of the Mayo Clinic, Rochester, Minn., read a very interesting and practical paper on "Squamous Cell Epithelioma of the Lip," based on a study of 537 cases. The paper was discussed by Drs. Gale, A. P. Jones, Pedigo, Graves and S. J. Gill. About forty-five members were present.

The Academy is enjoying the largest attendance at its meetings in recent years, and all members are manifesting more interest than ever before. A committee has been appointed to look into the possibility of securing a permanent meeting place and a Medical Library.

At the November meeting of the Academy, the following officers were elected for the ensuing year: President, Dr. W. R. Whitman, Roanoke; vice-presidents, Drs. E. H. Luck, Roanoke, and Minor Wiley, Salem; secretary, Dr. E. G. Gill, Roanoke, and treasurer, Dr. T. D. Armistead, Roanoke.

E. G. Gill,
Secretary.

THE LYNCHBURG (VA.) AND CAMPBELL COUNTY MEDICAL SOCIETY

Held its annual meeting December 1, at which time the following officers were elected for the ensuing year: President, Dr. John W. Carroll; vice-president, Dr. Bernard H. Kyle; secretary-treasurer, Dr. E. F. Younger. All are of Lynchburg.

At this meeting a resolution was adopted raising fees for medical services fifty per cent.

This Society is making an effort to secure for membership every eligible white physician within its jurisdiction. It has recently inaugurated the plan of bi-monthly meetings, with luncheon, at which short talks and papers are heard.

E. F. Younger, M. D.,
Secretary.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

At the annual meeting of the Academy, held December 10, Dr. J. Garnett Nelson was elected president, and Drs. R. D. Garcin, G. Chambers Woodson and W. B. Porter, vice-presidents. The following were re-elected: Dr. M. W. Peyser, secretary; Dr. E. H. Terrell, assistant secretary; Dr. Howard Urbach, treasurer, and Dr. G. P. LaRoque, librarian. The following were elected members of the judiciary committee: Drs. Virginius Harrison, McGuire Newton, W. L. Peple, Greer Baughman, W. H. Higgins and A. L. Gray.

New members elected at this meeting were Drs. Wallace Blanton, John Blair Fitts, C. A. Folkes, G. M. Harwood, B. A. Hord, D. R. Murchison, and Sidney Trattner.

THE PETERSBURG (VA.) MEDICAL FACULTY.

At their annual meeting November 21, elected the following officers for the ensuing year: President, Dr. E. J. Nixon; vice-presidents, Drs. F. J. Wright and George H. Reese; secretary and treasurer, Dr. J. M. Harwood, and corresponding secretary, Dr. W. C. Powell. After the business meeting, the doctors had their annual banquet at the Petersburg Hotel, the new president presiding.

PRINCE GEORGE COUNTY (VA.) MEDICAL SOCIETY.

At a meeting of this Society in Hopewell, November 21, Dr. W. B. Daniel, of Disputanta, was elected president for the coming year. No other changes were made in the officers of the Society.

THE SOUTHSIDE VIRGINIA MEDICAL ASSOCIATION

Held its sixty-fifth session in Victoria, December 9, Dr. D. L. Harrell, first vice-president, presiding. A representative number of members were present, and one of the best programs in the history of the Society was rendered. The Lunenburg men spared no effort to make the meeting a success, and the visiting physicians were profuse in their expressions of appreciation of the splendid manner in which they were entertained while in Victoria.

The following officers were elected: Dr. D. L. Harrell, Suffolk, president; Drs. E. L. Kendig, Victoria, E. H. Connelly, Alberta, E. E. Martin, Emporia, and W. T. McLemore, Courtland, vice-presidents; and Dr. R. L. Raiford, Sedley, was re-elected secretary-treasurer. The meeting then adjourned to meet in Crewe, the second Tuesday in March, 1920.

R. L. Raiford, Secretary.

EDITOR'S COMMENTS.

County Society Organization.

If the doctors in Virginia will actually organize upon the plan of county society and state society, as has been done in 36 states of the United States, strength and influence, in the several fields of public health, medical education, medical legislation and personal professional advancement, will accrue to Virginia.

The state society, during the last few years, through a series of changes of its constitution and by-laws, has at last, as shown by a perusal of the amendments adopted at the Richmond meeting, about placed itself upon a modern, business-like and representative basis. As now organized, the state society is really a representative organization. It is impossible, it would seem, that, in its legislative function, it should fail to express the opinion and feelings of the local societies of the state. Let us see how it works. Each county society is represented in the House of Delegates which meets at each meeting of the state society. This House of Delegates is the legislative body of the society. Every 35 members of each county society is represented by a delegate, and as is a majority fraction of every additional 35 members. In addition to this form of directed representation, the councillors are elected from the ten congressional districts, serving for three years; and, besides, there are five elected from the state at large for the same period. The House of Delegates, it is seen, is a democratic body, which must express the will and wishes of its constituency, if possible to do so. Between the sessions of the society, the Executive Council is charged with the duty of conducting the business of the organization and is in control of the executive affairs, officers and committees. With this machinery of organization in action, it is quite certain that the majority will of the component membership will be worked out.

Every county in the state should organize. No matter how small the membership, the benefits resulting to the individual, as well as to the profession in general, demand co-operation on the part of all. The county organizations, with their presidents and secretaries, meeting at stated intervals to discuss scientific as well as practical problems, will be kept in touch, through offices of the state society, with matters of statewide importance and will, in this way, be a part of the work the state society proposes to accomplish for the advancement of medical problems in the profession and for the public weal in Virginia.

Every Member Should Have His Membership Card.

Every Component County Society Should Have Its Charter Certificate.

The Business Manager: Mr. Winfrey.

Mr. G. H. Winfrey, of Richmond, was elected Business Manager of the Medical Society of Virginia at a recent called meeting of the Executive Council.

Mr. Winfrey is especially qualified for this position. He has had wide experience in one of the fields particularly useful to the state organization. He has been engaged in organizing and operating war service campaigns and work; he has been employed in operation of the University Club in Richmond, which has brought him in touch with educational interests throughout the state. He has the spirit of service and work. This has been shown in all his public work and service.

Mr. Winfrey, after he gets his offices equipped and completes the necessary work incident to securing advertisements for the journal, will begin his work of getting in touch with the county medical societies of the state. He will travel when necessary throughout the state, and meet with the doctors of the societies and discuss with them, and assist them in, the problems of organization. He wants to be of service. He can be of service in the organization of professional men in Virginia.

Mr. Winfrey will be the authorized and bonded treasurer of the society. His office will send out bills for annual membership dues to each member, and will issue membership cards to members. The annual dues of the society are $4.00. This fee entitles one to membership with its advantages, rights and privileges and, also, to a year's subscription to the Virginia Medical Monthly. The state society wisely decided to collect its dues directly through its own business manager. This was done to save trouble as well as to centralize and to make more business-like the financial management. This is readily appreciated for the following reason alone, if for no other: The expense of conducting and printing a medical journal is one that requires close attention to financial

matters. The printer's bill must be paid each month. The office expenses must be paid each month. The paper and expenses of mailing the journal must be paid. The money for carrying on this work must come in immediately and directly or else the service and the work will be, in this way, retarded and embarrassed.

The members are urged to assist the new plan by sending in the $4.00 for the dues at once. With this issue will be found a bill which will call this to the attention of membership. If members will, at once, before it escapes attention, send the money, it will greatly help and relieve the office of the expense and work of sending out personally mailed bills.

Assistant Business Manager: Miss Edwards.

The profession throughout the state will be glad to learn that the state society has been so fortunate as to retain the services of Miss Agnes Edwards, daughter of our honored Dr. Landon B. Edwards, so long secretary of the Medical Society of Virginia and editor of the Virginia Medical Monthly. Miss Edwards will continue her work in the more special field of journal-making. Her years of experience with the rather technical work of reading medical proof, in making up medical forms, in transacting business with medical advertisers and in dealing with our Virginia profession, many of whom know her, makes it especially fine that the Society is to have Miss Edwards' service in the conduct of the Virginia Medical Monthly as well as in other duties related to the business of the society.

The Office of the Medical Society of Virginia.

The state society has opened offices at 104½ West Grace Street, Richmond. In these offices will be conducted the business of the society. Here the business manager and assistant business manager will have offices. Here will be kept the records, files and property of the Medical Society of Virginia. Here will be conducted the Virginia Medical Monthly. The members, visiting Richmond, will find a cordial reception here, and will find a room for reading and writing. All correspondence should be directed to this address.

Transactions, Reports and Personals of County Societies.

The Virginia Medical Monthly should be the official organ of the county societies. It should be the medium of publication, so far as possible, of the papers and official transactions of those societies. It should afford the profession of the state a publication in which the personal and professional news items relating to the doctors of the organization, as well as of the nation at large, may be brought each month to the attention of the doctors of Virginia. So the officers of County Societies are urged to send in to the Virginia Medical Monthly papers, transactions, and personal news items for publication, when possible. All this makes the journal of use and interest. It serves to unify the profession.

Good Roads.

No class of citizens personally depend upon the highways and roads for the conduct of the work of life more than physicians. Physicians must travel by conveyance, horse drawn or automobile, from one patient to another .Much of his life is spent upon the road. Much time is consumed in the mere transportation from place to place. His work is a personal one. He cannot send some one; he must go himself. The method and manner by which he is to overcome this necessary time-consuming and body-fatiguing phase of his work is of most essential interest to him. Let the doctors of Virginia interest themselves in this public work in every proper way, now that the work of modernizing our highways is about to begin.

Petersburg Next Year.

The next meeting of the Medical Society of Virginia will be held in Petersburg. In connection with this meeting it is pleasing to note the resolution, which shows such cordiality and hospitality, just received by the chairman of the Executive Committee, Dr. E. L. Kendig. This resolution expresses the purpose of the Dinwiddie County Medical Society and the Petersburg Medical Faculty to meet every requirement and need of entertainment of the members attending the Petersburg meeting next year. The Medical Society of Virginia may feel assured of receiving a cordial and warm reception from the local profession of Petersburg and Dinwiddie County.

From a Child's Toy.

Just one hundred years ago Rene Theophile Hyacinthe Laennec, one of the pioneers of modern medicine, observing some children playing in the gardens of the Louvre, listening

to the transmission of sounds along pieces of wood, conceived the idea of utilizing this method for listening to breath sounds in examining a patient's lungs. He went home, fashioned a tube by rolling up some glued paper, and then experimented with this in his ward at the Neckar Hospital. From this incident in the garden dates the modern "stethoscope," an instrument well-nigh indispensable in the modern practice of medicine.

The early stethoscopes contrived by Laennec, were unlike those generally in use in this country at the present time, for they were constructed to be used by one ear only. Nevertheless, the original Laennec type is still widely used in European countries. To us, who are accustomed to the scrupulous cleanliness of everything about the modern hospital, it is curious, indeed, to learn that the filthy condition of the patients in the hospitals in Laennec's time made it repugnant to physicians to listen to the sounds in the lungs by placing the ear directly on the chest of the patient.

Laennec gave his invention the name by which the device is still known, deriving the word stethoscope from two Greek roots, one meaning the "chest" and the other "to observe," or "regard."

In using the stethoscope, the instrument should be placed on the bare chest wall. For this reason, a satisfactory examination of the lungs can only be made when the patient is stripped to the waist. Do not attempt to examine a patient's chest through the clothing. Such an examination is worthless.

Dr. Laennec was born at Quimper, in Brittany, on February 17, 1781, growing to manhood during some of the most troublous years in the history of France. He studied medicine at Paris, receiving his degree of doctor in 1804. He died on August 13, 1826, at the early age of 45, in the quaint old town in Brittany in which he first saw the light.

Nasal Hydrorrhea.

No case similar to the one described by him has been found by Castex, of Buenos Aires, in the literature. A woman, aged 40, began to have outbreaks of rhinorrhea in paroxysmal form when about 28 years of age. The attacks occurred at relatively long intervals in the first years, but slowly and progressively became more frequent and acute. The patient was seized at any hour of the day or night, although there was a predilection for the morning and evening. The attacks began with a sensation as of a sudden cold, with sneezing, followed by an abundant flow of albuminous liquid, which lasted between half an hour and an hour. Topical applications, general treatments, dietetic and climatic therapeutics gave not the slightest relief, the attacks, on the contrary, becoming progressively more acute and frequent, until from one, daily, they reached in the last two years, two or three crises per day, lasting progressively longer, up to two and three hours each time. The intensity of the flow also increased and necessitated an average of fifty men's handkerchiefs for each attack. Exploration by Maranon's maneuver disclosed that she had a goiter, distinct, soft, scarcely perceptible to the touch at the level of the isthmus and left lobe, evident at the level of the right lobe, and still more evident throughout the gland.

Treatment was begun with thyroid preparations, and within a few days a favorable effect on the paroxysms of hydrorrhea was apparent. Thereafter the thyroid treatment was intensified. The hydrorrheic attacks became much less, but at the same time the phenomena of hyperthyroidism made their appearance, and their exacerbation was such that the treatment had to be interrupted. Close examination of the patient disclosed a slight anisodischorea and a soft systolic bruit in the aorta. These two elements suggested the probability of the syphilitic origin of the dysthyroidism—especially since the husband of the patient had formerly had syphilis, treated deficiently, and most of the children showed a taint of hereditary dystrophic syphilis. A mixed antisyphilitic treatment was started, having recourse to the administration of iodin through the alimentary canal, and mercury, through intramuscular injections of 0.02 cmg. of biniodid per day for a month. At the end of the month's treatment, the attacks had almost entirely vanished, threatening only from time to time. The patient was allowed a rest from treatment for three months. The attacks were renewed during the third month. The mercurial treatment was resumed and kept up for three months. At the end of the first month the crises vanished and did not return either during the last two months of mercurial treatment or during the two months' rest which have since elapsed.—(*Journal of Endocrinology*, March, 1919).

Virginia Medical Monthly

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Editorial.

Medical College May Consolidate.

Governor Westmoreland Davis will recommend, it is reported in the press, to the General Assembly, when it convenes in Richmond in January, the appointment of a commission to make a survey of the Medical College of Virginia and the Medical Department of the University of Virginia, looking toward an amalgamation of these two state schools. It is proposed to select experts, trained in making such investigations, as members of this commission. The commission, after a study of the situation, will make suggestions and plans whereby the consolidation may be bronght about. Governor Davis is reported to have said that he had given the matter much thonght, and had come to the conclusion, from the standpoint of conserving the best interest of the state, that the appointment of such a commission is the wisest thing to do.

The movement has received impetus from the fact that such an amalgamation of these medical schools would make available the Rockefeller Foundation fund of $4,000,000. It is known that it is the policy of the Rockefeller Foundation, where there are two or more good medical schools in a state which are doing a similar grade of work to encourage amalgamation and to financially aid such a combinaton by an edowment fund.

This is an educational problem which every one of the doctors of the state is interested in. Every member of the Medical Society of Virginia, in every part of the state, will consider this announcement of Governor Davis with interest, and will no doubt feel disposed to express to his representative from his section in the Legislature his views upon the important matter.

In connection with this, our readers are urged to read the following editorial, which appeared in the lay press recently:

"But the News Leader has satisfactory reason for believing that the general education board will not consider the donation of funds for medical education in Virginia until the medical profession of the commonwealth and the public are united in support of one college. The amalgamation of the medical department of the University of Virginia and the Medical College of Virginia is necessary before the general education board will be interested in any large gift to Virginia. Governor Davis, apparently, has reached the same conclusion in the investigation he has undertaken, and he has announced that he will recommend to the incoming General Assembly the appointment of a special commission to report upon the practicability of amalgamation. This gives to the matter an official support which the News Leader need not say is both justified and desirable.

"But why will it be necessary to wait until the session of 1922 to complete the amalgamation, especially as, by that time, the general education board may have disbnrsed the available special funds? If the two schools can come together, why cannot they do so speedily? At the very least, why cannot the act proposed by the Governor stipulate that if terms of amalgamation are agreed upon, they may be put into effect without awaiting further legislative action? There was a time when the two colleges were not far apart. There is no reason The News Leader can see why negotiations cannot be taken up where they were broken off and carried to agreement. If this be not done, The News Leader confesses that it views with no small concern the future of medical education in Virginia. The trend is altogether toward the larger, well-appointed colleges, adequately equipped and supplied with teachers who devote their whole time to the work. Every one must realize this who will compare the list of medical colleges today with the list of active colleges in 1909. The very fact that the University of Virginia

and the Medical College of Virginia have been able to exist and to improve their standard in the face of this movement is proof that they have vitality, power and the support of their alumni in a measure that would insure the future if they were consolidated. On the other hand, if both continue to struggle onward, there is reason to believe that the development of Vanderbilt, not to mention the great prestige of the medical department of Johns Hopkins, will gradually draw from this territory the students that now come either to Richmond or to Charlottesville.

"In addition to these general considerations, more or less familiar to all, The News Leader has special information it is not at liberty to print, which information warrants this paper in calling for immediate action to meet what is at once a great opportunity and a very grave crisis."

Study Symptoms of Misfunctioning Organs.

Hewlett has well said that "the study of disturbed function in disease has become one of the chief centers of interest for those physicians who are anxious to follow and to assist the advancement of our knowledge of internal diseases." It certainly must be true that a disturbed physiological process, so disturbed as to produce subjective symptoms or objective signs in an individual, is the battlefront of disease where is to be found the earliest corrective possibilities in their treatment. In such a domain the physician may truly find his most successful field of work. Before organic disease has changed anatomically the organ, in that threshold of variation from normal functionation, where are felt and seen the early symptoms and signs of the sick, is the zone of the doctor of the future.

This is well illustrated in the stomach cases. In no organ is there more commonly found symptoms indicating mere misfunction. Consider briefly a few of these symptoms of gastric misfunction:

Pain.—This sign (sensory) must be carefully considered, for it may be an expression of organic disease rather than a gastric neurosis. So the evidence of pain in stomach cases must be carefully weighed in order that gastric and duodenal ulcer and gastric cancer may be frankly excluded. By no chance must pylorospasm, with its hunger pain, be lightly brushed aside with the thought of its being merely a secondary vagotonic state. However, associated with hyperchlorhydria, hypermotility and gastric hypersecretion, pain may be caused only by the neuro-muscular action of the pylorus. Then there may exist, also, pains which have been dignified by such terms as gastralgia, gastrodynia and neuralgia of the stomach. It is important in the type of pain to exclude all organic disease (ulcer, gastric and duodenal, gastric cancer and gastritis). This pain (termed gastralgia) is due to overstimulation or irritation of the sympathetic ganglion in front of spinal column, involving, also, the celiac plexus, superior mesenteric and aortic plexuses (Aaron). Eructations are commonly associated. Such gastric crises or intermittent attacks of gastric pain are associated with nervous irritation of syphilis, gallstones and chronic appendicitis, and should be always investigated with these usual causes thought of.

Again, pain of another variety is complained of in gastric neuroses, and that sort is spoken of as hyper-aesthesia. It is not a sharp pain, but it is a sensitiveness and discomfort (gastric) which may be so aggravated as to assume the proportions of pain. This sort of pain is found in subvarieties, as expressed in sensations of fulness in the stomach after a small meal, pressure in the stomach: tension or burning—inability to bear the slightest weight without irritable and disturbing effect over the stomach.

Lastly, gastralgo-kenosis of stomach, is a sort of pain that appears in neurotic stomach from empty stomach. This pain may be quite severe several hours after the meal. This is usually relieved by eating, usually excited by chewing gum.

Eructation.—This sign of belching and regurgitation of undigested food is an important one. In the form of aerophagy, or violent discharges of air from the stomach, unrelated to presence of food in the stomach we have a rather distinctive sign of a neurotic individual with a malfunctioning stomach, which to their mind is greatly magnified. In their effort to overcome a small amount of gas from putrefactive or fermentative changes, they take in more than is formed, and nervously attempt to get rid of it by violent belching. So great may this intake of air become that distress of tachycardia and dyspnea may be added. They may acquire what is known as pneumatosis or

drum belly when the relief is not gotten by eructation.

Eructation of food also is another act of the gastric neurotic. This may arise from irritation of either central or peripheral nervous mechanism. Nervous vomiting is often seen in the neurasthenic with slight dysfunction in the stomach. Organic disease of the stomach must be distinguished from this. In this connection one must speak briefly of rumination, in which the stomach regurgitates food taken several hours before. This sign is seen in its aggravated form in the truly neurotic with gastric disturbance.

Insufficiency of the Pylorus.—This sign of impaired motility of gastric function without organic disease is infrequently in purely functional disturbance, but it is observed in connection with deficiency of gastric secretion as achylia gastrica or subacidity. This may arise of conditions entirely outside of the stomach. For instance, in pernicious anemia or secondary anemia goitre, a low acidity may produce a condition of patulous pylorus with its symptoms of gastrogenic diarrhea, weakness and emaciation. This symptom may be recognized only through the fractional tests of gastric action with duodenal tube.

Hyperchlorhydria must be taken also as a sign of gastric neurosis when clearly distinguished from hyperacidity associated with an inflammation ulceration of stomach and duodenum, as it should be clearly done always. This sign of dysfunction arises as a result of some stimulating dietary error. It may be at first a compensatory secretion, later it becomes associated with uneasy sensations one or two hours after meals, at the high tide of digestion symptom of pyrosis, gastric pain, cramps, pylorospasm produced marked depressing effect upon the patient.

Melancholia and despondency, insomnia and irritability may characterize the mental habit of the individual. Practical tests of the hydrochloric acid secretion will show the curve to run high, and will also disclose slow emptying time of the stomach. If the condition has been going on for a long time, other motile signs of atony and ptosis may be revealed by the stomach tube.

Nation-Wide Health Conservation Urged.

Surgeon General Rupert Blue, of the United States Public Health Service, has sent letters to numerous health agencies, suggesting a conference in Washington to consider a program for nation-wide conservation of health. Federal, State and local health officers must co-operate most closely in order to direct the campaign in the different local communities and set a definite objective.

For instance, a Southern city would be more interested in a campaign against the mosquito and malaria than it would be in Rocky Mountain spotted fever. A Northern industrial city would be more interested in the control of pneumonia and respiratory diseases. All, however, have cancer, tuberculosis and venereal diseases; all would be benefited by public health nursing, medical supervision of school children, adequate sewage disposal, the provision of pure water and pure milk. So, while each city and rural community will have as a definite objective the most vital need in that particular place, the various health agencies will have definite objectives according to the particular problem they set for themselves to solve.

The health program to be submitted to the conference has been in preparation for months, experts of the Public Health Service long having foreseen the need of such a nation-wide effort. A preliminary announcement of the plan was made at New Orleans at the recent meeting of the American Public Health Association which gave unanimous endorsement.

Few realize what has already been accomplished in the field of preventive medicine, or what can be done by a carefully executed health program, which is cumulative and continuous rather than spasmodic and desultory in character.

In 1900 the general death rate from all causes in the United States was 17.8; in 1917, the latest figures available, it had been reduced to 14.2. Had the 1900 death rate prevailed in 1917 there would have been in the United States, with an estimated population of 110 million, 396,000 more deaths than actually occurred.

The record of other years leaves little room to doubt what may be done in saving life. In 1900 typhoid fever caused a death rate of 33.8 per 100,000 population. In 1917 the rate had been reduced to 13.4. Diphtheria was reduced from 35.4 to 16.5 in the same period. Tuberculosis declined from 190.5 deaths per 100,000 of population in 1900 to 146.4 in 1917. Had the 1900 rate prevailed in typhoid fever, diphthe-

ria and tuberculosis, in 1917 the three diseases alone would have caused 91,749 more deaths than actually occurred.

Preventable disease cost the United States four billion dollars less in 1917 than it would had the health conditions of 20 years ago prevailed in 1917.

The Public Health Service is led to believe that its health program is feasible, owing to the fortunate co-operation and successful termination of the extra cantonment work, which was carried on so efficiently by the American Red Cross, State and local health authorities and the U. S. Public Health Service. The lesson taught by this splendid demonstration of team work should not be lost to the country. For this reason, the American Red Cross, which has set aside millions of dollars for health work in the United States, has been asked to take an active part in translating the health program into action. Its thousands of local chapters are counted on to arouse and maintain interest in health work and actively co-operate with Federal, State and local health officers in accordance with the announced policy of the American Red Cross to co-operate with existing health agencies.

Married—

Dr. Rea Parker, Smithfield, Va., and Miss Leslie Nalle, Culpeper, Va., November 19.

Dr. Joseph Bear, Richmond, and Miss Kate Cohen, Norfolk, Va., November 25.

Dr. Calvin H. Childress, Richmond, and Miss Eva Irnelda Ehrmantraut, Norfolk, Va., December 4.

Dr. D. Talmadge Hunter, formerly of Monroe, N. C., but now, with the rank of lieutenant stationed on the receiving ship at the Brooklyn Navy Yard, and Miss Teresa Margaretta Pearcy, formerly of Parkersburg, W. Va., December 9.

Dr. Reuben A. McBrayer, Sanatorium, N. C., and Miss Louise Ludlow, Winston-Salem, N. C., November 7.

Chapter of Alpha Omega Alpha at the University of Virginia.

On November 15 the honor medical fraternity Alpha Omega Alpha issued a charter to five members of the medical faculty and to Burr Noland Carter, Francis M. Massie, Walter W. Robinson, Beverly C. Smith, and Jas. B. Stone, of the class of 1919, and to Lewis D. Hoppe, Jr., of the class of 1920, to establish in the Medical Department of the University of Virginia the Alpha of Virginia Chapter of the fraternity.

This fraternity is not a secret society, but bears to the medical school somewhat the same relation that Phi Beta Kappa bears to Colleges of Arts and Sciences.. Election to membership is on the basis of scholarship, character, and promise of future efficiency in professional life, and is today the highest professional honor attainable by the medical student. Chapters are established only in those schools which actively promote and measurably realize the highest ideals of modern medical education, a four-fifths affirmative vote of all existing chapters being necessary to the granting of a charter. The fraternity was founded in 1902, and thus far chapters have been established in the following medical schools: Illinois, Chicago, Northwestern, Western Reserve, Jefferson, Pennsylvania, Washington (St. Louis), Harvard, California, Johns Hopkins, Toronto, Columbia, Michigan, Minnesota, Cornell, Syracuse, McGill, Nebraska, Tulane, Cincinnati, Pittsburgh, Indiana and Virginia.

Many of Virginia's School Children Need Some Form of Health Attention.

Many of the school children of Virginia are suffering from defects of one form or another, many of which may be cured by prompt and simple medical, optical or dental attention. While returns are necessarily incomplete from the Physical Inspection Day conducted by the public school teachers, November 3, facts garnered from the reports thus far received and summarized by Dr. Mary E. Brydon, director of the State Department of Health's Bureau of Child Welfare and School Hygiene, show that teachers in 227 schools in 34 Virginia counties, inspected 14,805 children. Of these, 3,258, or 22 per cent., showed defective vision; 992, or 6.7 per cent., showed defective hearing; the teeth of 6,623, or 44.7 per cent., showed need of the attention of the dentist, while 1,141, or 7 per cent., are reported as showing the effects of poor nutrition. It is not believed that these averages will be materially lowered with full returns from the public schools of the State. These defects are reported on cards to the parents and guardians of the children,

and it is urged that adequate attention be given them promptly.

Dr. Herbert W. Lewis,
Of Dumbarton, Va., was a recent visitor in Culpeper.

Dr. J. A. White
Has returned to his home in this city after a short stay at White Sulphur Springs, West Virginia.

Dr. A. C. Broders,
Of the Mayo Clinic, Rochester, Minn., was the guest of the Richmond Academy of Medicine and Surgery, November 25, at which time he read a paper on "Epithelioma". This was illustrated with lantern slides.

Doctors Are Officers in New Club.
Dr. Harry H. Varner, Baltimore, Md., was elected president of the "V" Club, which was recently organized at the University of Virginia and is composed of letter men. Dr. J. H. Neff, of the University, was elected a member of the Executive Committee.

Dr. Taliaferro Clark,
Of Washington, assistant surgeon-general of the U. S. Public Health Service, was a visitor in Richmond the latter part of November, at which time he gave a public lecture on "School Hygiene."

Medical Members of the General Assembly of Virginia.
Among the members of the General Assembly which convenes in this city in January may be noted the following medical men: Drs. Thomas S. Hening, Jefferson; J. B. Woodson, Lowesville; Charles U. Gravatt, Port Royal; R. H. Fuller, Clover; B. F. Noland, Leesburg, and W. D. Prince Stony Creek.

New Hospital to be Located in Lynchburg.
At the recent meeting of the Baptist General Association of Virginia, offers of large contributions were made by several Virginia cities, conditionally upon the establishment in them of the proposed Baptist State Hospital. After much consideration, the committee in charge decided that Lynchburg should be the future home of this hospital. Citizens of that place have offered to contribute liberally to the new enterprise.

Dr. Walter J. Otis,
Formerly of this city, but who was connected with the Staff of McLean Hospital, Waverley, Mass., at the time of entering the Neuro-Psychiatric service of the army, has located in New Orleans, La., where he is limiting his practice to Mental and Nervous Diseases.

Dr. Wm. N. Botts,
Who for several years has been chief surgeon for a large coal and lumber company at Pardee Junction, Va., has recently severed his relation with the company, and has opened an office for the practice of his profession at Appalachia, Va.

The Southern Medical Association,
At its meeting in Asheville, N. C., in November, selected Louisville, Ky., at the place of meeting for 1920. Dr. E. H. Cary, Dallas, Texas, was elected president and Drs. Henry H. Briggs, Asheville, N. C., and Alfred L. Gray, Richmond, Va., vice-presidents.

Dr. and Mrs. B. Roscoe Gary,
Newport News, Va., visited relatives in King William County, Va., in November.

Dr. and Mrs. Charles R. Reaves
And daughter, Greensboro, N. C., were visitors in Richmond the latter part of November.

Canadian Medical School Destroyed by Fire.
The main buildings of the University of Montreal, better known as Laval University, containing the medical department, were destroyed by fire on the night of November 22. The loss was estimated at $400,000, which was covered by insurance.

Dr. E. T. Brady,
Formerly of Roanoke, Va., but who has made his home in Pittsburgh, Pa., recently, visited relatives in Richmond, the latter part of November.

Dr. W. K. Vance, Jr.,
Of Bristol, Va., has been elected post commander of the local post of the American Legion of Honor.

Hospital Receives Gift.
The Mary Washington Hospital, Fredericksburg, Va., has for the third successive year received from Mrs. Chas. Steele, of New York, a check for $500, which is to go to the Nannie Forbes Memorial fund. This is a fund established several years ago by Mrs. Steele in honor of her kinswoman, and is given without qualifications or restrictions.

X-Ray Machine Explodes.

Dr. Jaugeas, in charge of the X-ray work at the American Hospital at Neuilly, France, was instantly killed a few days ago, by the explosion of his machine. While preparing to treat a patient, the Coolidge apparatus used for transmitting the rays suddenly burst into terrific fusillade of sparks, the shocks of which electrocuted the doctor.

Dr. Arthur Hooks,

Formerly of Blackstone, Va., but recently of Bristnl, has been named medical inspector in the public schools of the last named place.

Three-Fourths of Virginia's Men Physically Fit.

According to figures from the War Department, of 465,439 men registered for the draft in Virginia, 351,100, or 75 per cent., were found physically fit for military duty. Registrations of the selective draft in the United States, between the ages of eighteen and forty-five, totaled 23,908,576, almost 80 per cent. of whom were listed as "physically fit for military service."

Medical reports indicated that the zone where men were found most healthy runs through the center of the country from North to South. States in this belt showed the smallest percentage of physical disqualifications for active service.

Superintendent of Blue Ridge Mountain Sanatorium.

Dr. Walter C. Klotz, formerly of the Rockefeller Foundation, but recently of California, has been selected as medical superintendent of the Blue Ridge Mountain Sanatorium, near Charlottesville, Virginia, which is to be opened about the first of the year.

Dr. James J. Bishop,

For the past few years of Orange County, Va., is now located at Ivanhoe, Va.

Dr. Peter Winston,

For many years a member of the General Assembly of Virginia and a prominent doctor in his section of the State, has been critically ill at his home in Farmville, Va.

Dr. Roscoe R. Spencer,

Of the U. S. Public Health Service, and family, spent a few days visiting relatives in West Point, Va., before going to New Orleans, the first of this month, where he was to take up work in connection with the fight on bubonic plague.

Dr. Beverley R. Tucker,

Of this city, gave a talk on "The Role of the Subconscious Mind in Literature," at the meeting in this city, December 13, of the Virginia Writers Club.

Memorial Hospital in Reidsville, N. C.

Jefferson Penn, formerly of Reidsville, N. C., but now of Buffalo, N. Y., recently announced his purpose to have built in Reidsville a hospital to cost about $125,000. It is intended as a memorial to his wife, and will be fire-proof and of steel and concrete construction.

Money Asked for Government Hospitals.

Surgeon General Rupert Blue, of the U. S. Public Health Service, has asked Congress for an appropriation of $85,000,000 with which to build and equip hospitals to care for war risk insurance patients. He stated that more than 30,000 beds would be needed by July 1, 1921. He also recommended that the medical benefits be extended to men who are suffering less than 10 per cent. disability from war service, as these men would eventually suffer serious disability unless given proper treatment now. No sites for the locations of the hospitals were proposed.

Wanted— Location in a prosperous small town in Virginia by a general practitioner of eight years' experience. One year public health work. Immediately available. References and credentials furnished upon request. Address 51217, care this journal. (Adv.)

Obituary Record.

Dr. Edgar Reid Russell,

A prominent, eye, ear nose and throat specialist of Asheville, N. C., died at his home in that place, November 27, after a week's illness from blood poisoning. He was a native of High Point, N. C., and was 49 years of age. He received his medical education at the University of Maryland, from which he graduated in 1895.

Dr. **Richard E. Venning,**

Charlestown, W. Va., an ex-president of the West Virginia State Medical Association, and founder of the Charlestown Hospital, died October 31, at the age of 51. He was a graduate in medicine from the University of Pennsylvania in 1891.

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SURGICAL TREATMENT OF INTESTINAL STASIS.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.

Treatment of intestinal stasis is discussed now almost as much as the treatment of appendicitis was two decades ago when there was a division of surgeons into two camps, one of which believed in immediate operation and the other in delayed operation. On the one hand, the very radical procedure of total colonectomy for such vague indications as disease of the mammary gland and hip joint disease has very justly brought such surgical operations into disrepute; while on the other hand, extremists refuse to recognize that there is such a thing as intestinal stasis, or they say that if it does exist, they feel that it is never a surgical condition. Midway between these two extremes there seefs an excellent and logical middle ground.

What general practitioner has not seen patients who frequently have mental depression, headache, lack of appetite, a muddy skin, malodorous sweating, vague abdominal aches and pains with pronounced constipation? Such cases go from pillar to post and are frequently the receptacles of every new purgative that the detail man from the manufacturing chemists leaves in the office of the doctor. These patients have often been condemned and labeled "abdominal neurasthenics." To be sure, every case of chronic constipation does not give this group of symptoms, and many patients with symptoms of stasis have comparatively mild constipation. This is probably due to the same general reason that one man can easily lift 200 pounds while another can not shoulder a 50-pound weight. In other words, the intestines and the tissues of some patients have great resistance to toxins from intestinal stasis, and such cases do not develop constitutional symptoms. Other patients with but little resistance to these toxic products show constitutional symptoms quickly. If one patient, then, suffers constitutional symptoms from the same dose of toxic material that will not affect another, the former is none the less entitled to relief of these symptoms.

Many cases of intestinal stasis can be cured by medical treatment, which consists in the proper direction of personal hygiene, diet, and exercise, and the administration of as few drugs as possible. A pure grade of mineral oil is often excellent and is probably the only medicine in the nature of a purgative or laxative that can be given such cases constantly without deleterious effect.

The surgical treatment of intestinal stasis dates from the recognition of obstructive bands and kinks, and of intestinal stasis by Lane and from the papers by Stanton, who emphasized the unsatisfactory results of operation for so-called "chronic appendicitis," in which the appendix was removed through a short incision and no exploration was done.

Intestinal stasis may be due to bands, to prolapse of the colon, or to kinks. All of these conditions often give as one of the symptoms pain in the right iliac fossa. Usually there is a low grade chronic infection of the appendix, but this is only one item, and often is the least important of the abdominal pathology present. Whether the stasis is due to bands or ptosis the same symptoms may be present.

All cases of intestinal stasis should be treated by a competent medical man at least several months before surgery is resorted to. If after six months of intelligent medical treatment little or no benefit is obtained, a surgical operation should be considered. In no instance have I operated upon a case of stasis that had not received medical treatment for a number of months, and usually several years before operation was advised.

*Read at the fiftieth annual meeting of the Medical Society of Virginia, in Richmond, October 28-31, 1919.

As the same symptoms of intestinal stasis can be produced by quite different pathology in the abdomen, it follows, of course, that there is no standard operation for the relief of this condition. Bands or kinks should be divided or corrected, ptosis of the bowel should be relieved by shortening the ligaments that support the bowel, and in certain unusual cases, where the pathology in the cecum and ascending colon is marked and X-ray shows inability of the cecum to empty satisfactorily, resection of the cecum and ascending colon may be considered.

In a paper read before the Section of Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association in 1917 (*Journal A. M. A.*, Sept. 1, 1917), I reported seventy-four cases of intestinal stasis that had been operated upon from February 20, 1912, to January 1, 1917. These cases were carefully followed up and reports were secured from all of them except three. The cases were classified as "greatly improved," "improved," or "unimproved." The term "cured" was avoided, chiefly because it might be questioned whether, in view of the comparative newness of the surgical procedures, there may not be a recurrence of the symptoms, though this is hardly probable in any large percentage of cases. The cases that are marked "improved" are those in which a considerable proportion of the symptoms have been relieved or markedly benefited. Naturally these two types blend into one another, but it was my endeavor conservatively to class as "greatly improved" only those patients who are practically well or have only one or two minor symptoms that have not been benefited. The classification of "unimproved" consists of those in whom there is frankly no improvement, or in whom the improvement was so slight as hardly to justify other classification.

Each patient and each patient's family physician were sent a stock letter requesting a report of the patient's condition and whether the symptoms had been relieved since the operation. Two symptoms particularly inquired about were change in weight and the presence or absence of constipation, as these are less subject to psychic influences than the more indefinite complaints of nervousness, headache and abdominal pain, and hence they may be considered a fair indication of the patient's real condition.

In this group of seventy-four cases there were thirteen men and sixty-one women. In twenty-two patients the operation performed was appendectomy and division of Lane's band. Thirteen of these reported that they were greatly improved, eight that they were improved. There were none unimproved and no deaths. One patient did not report. In twenty-seven cases the Coffey, or hammock operation, which consists in suturing the gastrocolic omentum to the abdominal wall, was done. Of this number, twelve reported great improvement, ten improved, and two unimproved. Two died, and from one case no report could be obtained. In seventeen patients ceco-sigmoidostomy was done. In this group six were greatly improved, four were improved, five unimproved, one died, and from one no report was obtained. In five patients the Coffey operation and ceco-sigmoidostomy was done. Of these three were greatly improved and two unimproved. In three cases, ileo-sigmoidostomy was done. None of these were greatly improved, but two are classed as improved. All recovered from the operation. One died from pneumonia two years and two months after leaving the hospital.

Summing up this group of seventy-four cases, we have thirty-four, or 46 per cent., greatly improved, twenty-four, or 32½ per cent., improved, nine, or 12 per cent., unimproved, four, or 5½ per cent., dead, and three, or 4 per cent., not heard from. The reports from these patients varied from five months to five and one-quarter years from the time of operation. If the patient was doing well at the end of one year after operation the improvement was usually, though not always, maintained.

Of the four deaths in this series of seventy-four cases, one patient died of pneumonia two years and two months after leaving the hospital and three died while in the nospital. This leaves an operative mortality of three, or 4 per cent., of the group of seventy-four. Of the three patients who died in the hospital, one died of pneumonia four days after operation, one died when about to sit up from what appeared to be pulmonary embolism, though no post-mortem was held, and the third death was from volvulus around a ceco-sigmoidostomy.

From January 1, 1917, to October 1, 1919,

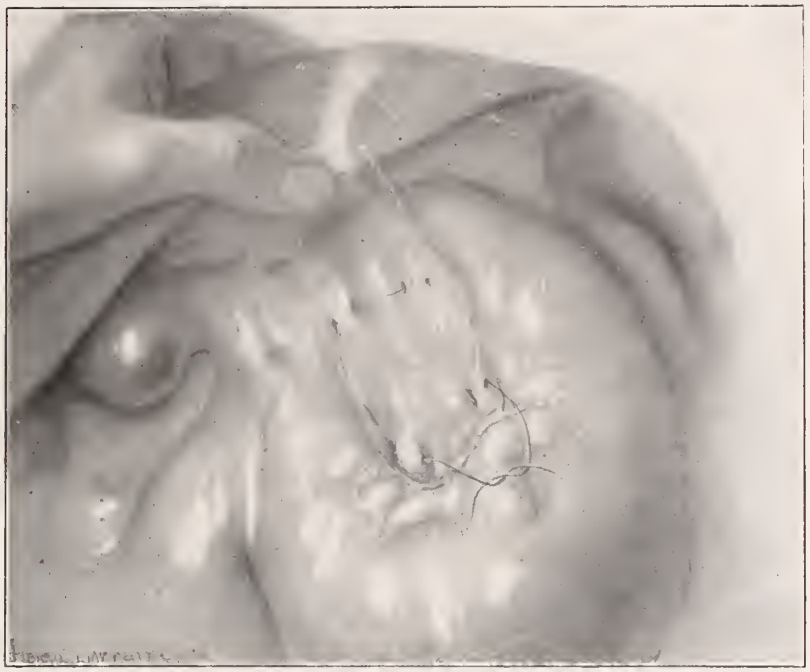

Fig. 1. Plication of the gastro-hepatic omentum. A purse string suture has been inserted as described in the text and is about to be tied. Occasionally an additional single interrupted suture is necessary to bring the stomach up well.

Fig. 2. Sutures are being inserted to plicate the gastro-colic omentum and to bring the colon up to the stomach. These are interrupted sutures of either linen or silk and eight or ten are inserted.

Fig 3. Sutures have been tied and the transverse colon has been brought up snugly along the greater curvature of the stomach and is so suspended by taking a reef in its natural ligament, the gastro-colic omentum.

Fig. 4. Roentgenogram of the valve made after resection of cecum and ascending colon taken forty-one days after operation. At the point indicated by the arrow is the valve which was formed by the operation. The valve was subjected to the pressure of three quarts of barium enema yet it appears entirely competent.

I have done thirty-five operations for intestinal stasis. In this latter group there have been no deaths, and if the total number of one hundred and nine cases is taken, the death rate of the whole group is 2¾ per cent. In these thirty-five cases no systematic effort has been made to obtain ultimate results, as most of these patients have been operated upon too recently.

The type of operation, however, in the second group of cases was somewhat changed, chiefly as the result of experience gained from operations on the first group. In this last group of thirty-five cases there were three resections of the cecum and ascending colon, two ceco-sigmoidostomies, seven Coffey operations, sixteen plications of the gastro-colic and gastro-hepatic omentum, four plications of the gastro-colic omentum alone, and three plications of the gastro-hepatic omentum alone.

In this latter group, no effort has been made to list cases of intestinal stasis due solely to bands and chronic appendicitis. These cases were quite numerous, but they require a full study of the history to separate them from cases having the same lesions with no stasis, and for purposes of immediate operative results the types of operations mentioned are satisfactory. Later an attempt will be made to study these thirty-five cases along with others of stasis from Lane's band when sufficient time has elapsed to render from the patient and the family physician a report of value. There has, however, been no operative mortality in these patients, in whom the appendix has been removed and Lane's band divided.

As a result of analysis of the first group of seventy-four cases we found that the cases of intestinal stasis in which simple appendectomy and division of Lane's band was all that was necessary gave the highest number of greatly improved or practically cured cases. Next in the list of greatly improved cases came the Coffey operation, while ceco-sigmoidostomy gave only about one-third greatly improved as against about one-half greatly improved in the two other groups.

Excluding consideration of appendicitis and Lane's band for reasons that have already been mentioned, changes of the other types of operation have been made, and for the following reasons: The Coffey operation or suturing the gastro-colic omentum to the abdominal wall has been abandoned, because while a large percentage of the patients following this operation was greatly improved, the pain due to traction on the parietal peritoneum is very great for the first few days after operation. Two deaths occurred after this operation which was done twenty-seven times alone and five times in conjunction with ceco-sigmoidostomy. One of these deaths was due to pneumonia and the other apparently to pulmonary embolism. The death from pneumonia appears to have been at least favored by the Coffey operation which hindered respiration on account of pain. Whether there was any connection between the death from pulmonary embolism and the Coffey operation it is difficult to state, but conceivably there might be a possible connection. For these reasons I have abandoned the Coffey operation for ptosis of the stomach and colon, and instead do a plication usually of both the gastro-hepatic omentum and the gastro-colic omentum at the same time. Occasionally plication of only one of these omentums is necessary, but this is an exception, for both, as a rule, should be plicated.

The method of plicating consists in taking interrupted sutures of linen or silk in the gastro-colic omentum between points just as this omentum leaves the stomach and just as it reaches the colon, being careful to avoid blood vessels. A series of eight or ten of these sutures are taken. In plication of the gastro-hepatic omentum I use a modification of the Beyea operation. Beyea passed a series of interrupted silk sutures in the gastro-hepatic omentum, so taking a reef in the omentum and shortening it. I found it simpler to do this by means of one purse string suture of linen or silk in a curved needle which begins at the left portion of the gastro-hepatic omentum just as it reaches the dependent part of the curvature of the stomach, takes a second bite on the same side high up under the liver, and crosses over to the right side, taking a third bite at about the level of the second insertion of the needle. The needle is then brought down on the right side and is inserted for the fourth bite in the gastro-hepatic omentum on the right side near its insertion in the stomach. The suture is tied snugly while the stomach is pushed up. In this way the middle of the gastro-hepatic omentum, which is very thin and delicate, is avoided and

practically obliterated, and reliance is placed upon the stouter tissues to each side of this weak central area. Sometimes if this purse-string is not satisfactory a single stitch can be taken from the point on the lesser curvature of the stomach between the insertions of the purse-string suture to a high part of the gastro-hepatic omentum. This reinforcing suture is not often needed, but can be readily placed and brings the lesser border of the stomach well up under the liver if the purse-string suture alone fails to do this.

Ceco-sigmoidostomy has now been virtually abandoned. While it is a considerable improvement on ileo-sigmoidostomy, the proportion of greatly improved cases is smaller than that following the Coffey operation. This may be due to the fact that the type of cases in which ceco-sigmoidostomy seems indicated are more difficult to cure than those in which there is merely a ptosis of the transverse colon. I feel, however, that these instances in which the cecum is so greatly dilated or so markedly affected by infiltration and adhesions that it can not satisfactorily empty after suspension or division of bands, will be best treated by excision of the cecum and ascending colon and end to end union of the ileum to the stump of the transverse colon, forming a valve and using enterostomy according to the technic described in a paper I published in the *Annals of Surgery*, January, 1919.

All of these three cases in which the cecum and ascending colon were resected for stasis have made a satisfactory operative recovery, and all of them have been considerably improved by the operation. One patient who had been treated medically at several hospitals without material benefit weighed only eighty-two pounds when she entered St. Elizabeth's Hospital. She gained thirty-six pounds in five months after the operation. She has lost about eleven pounds since that time, but now weighs twenty-five pounds more than she did before operation when she was a confirmed invalid. Though she was considerably improved, she is not free from all of her old symptoms.

The criticism might be made that if a large percentage of these cases has been cured, why is it that a considerable percentage, having approximately similar symptoms and similar pathology and undergoing the same type of operation, is not relieved? I think the answer to this is the same as is given by neurologists after operations for epilepsy following trauma to the brain. If the operation is postponed until a depressed skull or the irritation of scar tissue produces perfanent tissue changes in the delicate cortical cells of the brain, the operation affords but little relief. If, on the other hand, the operation is undertaken before these changes become organic and permanent, great benefit is obtained. It seems possible that the continual irritation of the toxic material absorbed from intestinal stasis produces changes in the nervous system, possibly in the sympathetic ganglia, that may not be recovered from. If the proper type of operation is done before these changes have becofe permanent the patient may be practically cured, but if it is deferred until after the pathology of the nervous system becomes organic, but slight benefit may result.

While the ultimate results following operations in intestinal stasis cases are not as satisfactory as those following operations for definite local lesions, such as acute appendicitis, or gall-stones, we must remember that the so-called "abdominal neurasthenic," who has not been cured by intelligent medical treatment, becomes a nuisance to himself, to his family, and to his doctor, and is practically a drag upon the community, and returning as much as 46 per cent. of these cases to the greatly improved or practically cured list, to say nothing of the smaller percentage that is somewhat improved, seems an accomplishment worthy of some consideration.

Finally, I have been particularly impressed with the great value of the co-operation of the physician and surgeon in this type of cases, particularly in their after-treatment. The regulation of diet, the proper personal hygiene, the ingestion of abundance of water and the administration of liquid petrolatum should be carefully observed. This can only be done under the supervision of the family physician. Before operation these measures give but little improvement in this group of cases, but when the pathology is corrected or removed, these patients will usually show a gratifying result under intelligent medical treatment. As the toxic material from stasis seems to have some affinity for the nervous

system, the patients not only require regulation of diet and personal hygiene, but moral boosting and the acquisition of a correct mental attitude. These things can only be done by the careful attention of the family physician.

DISCUSSION.

Dr. A. M. Willis, Richmond: I have enjoyed Dr. Horsley's paper. Dr. Horsley is very enthusiastic and through enthusiasm progress is made in all departments of medicine. I wish I could be as enthusiastic over intestinal stasis and the fixation of various abdominal organs as he is. If we look back a few years we will remember how valuable we thought the fixation of the kidney was and how many of these cases seemed to improve after the operation. I believe this type of patient will be temporarily benefited by any form of operation. Enthusiasm of the surgeon, hospital attendants and friends seem to help to get them to thinking along other lines for the time being.

Just a word about statistics on benefit to the patients. I believe it would be a good plan to have the operator circularize his patients and then have them circularized by another surgeon and from the replies strike an average.

Dr. Horsley, closing discussion: In reply to a question by Stephen H. Watts as to the length of time between the operation and the date of the X-Ray picture showing the efficiency of the valve formed after resection of the cecum and ascending colon, Dr. Horsley said that it was 41 days.

In reply to Dr. Willis, Dr. Horsley said Dr. A. M. Willis had brought out a very important feature in regard to surgery of intestinal stasis. Dr. Horsley attempted to emphasize in his paper that no case of stasis should be operated upon unless the patient had been treated by a medical man for at least six or eight months without material benefit. Personally, most of his cases had been treated for years before operation. Each case should be carefully studied, a full history taken, and usually an X-Ray examination made. If no other pathology is found for the condition except intestinal stasis, operation for the cure of intestinal stasis should be done.

Dr. Horsley would not think of operating upon a case of ptosis of the colon or stomach if there were no symptoms any more than he would think of operating for displacement of the uterus without symptoms. The uterus is an organ that has no function except a procreative function. The colon and the stomach, on the other hand, are greatly concerned with the metabolism of the body almost every hour of the day and a serious interference with the normal function of these organs is usually manifested by certain symptoms. It seems strange that any surgeon should recommend the suturing into position of a displaced uterus which has nothing to do with the metabolism of the body and at the same time condemn the suturing into position of a displaced stomach or colon which is vitally concerned with nutrition.

It is well known that the peritoneum is one of the strongest ligaments for support of the abdominal organs and this feature is taken advantage of in operations for retroversion of the uterus (Johnston-Willis operation). Plication of the normal peritoneal ligaments of the stomach or colon appears from every standpoint the best method of securing these displaced organs in their normal positions and, at the same time, plication interferes as little as possible with the anatomy and with the physiologic function of the stomach and colon.

The cases included in this report have been carefully gone over and the first group has been followed up by letters, both to the patient and to the family physician. Some of these patients have been traced more than five years. These letters and records are open to inspection of any doctor who wishes to see them. Many of the patients, years after operation, have reported that they are practically well; and their family physicians have made similar reports, When these patients, who were almost derelicts and had not been benefited by medical treatment over a period of months or years, are operated upon and traced in some instances for as long as five years, with nearly 50% of practical cures, it seems that the methods by which such results are obtained should merit some consideration.

RALES AFTER EXPIRATION AND COUGH AS A MEANS TO EARLY DIAGNOSIS IN TUBERCULOSIS.*

By B. L. TALIAFERRO, M.D., Catawba Sanatorium, Va.

"Breathe out, cough and quickly breathe in."

Translate these instructions into plain everyday words for the patient and go over the entire stripped chest with your stethoscope and you will be surprised how often you will hear rales that are not elicited on ordinary or deep breathing.

Bray (*Jour. A. M. A.*, March 11, 1916), discusses how rales are produced and why. You will find the article interesting. Without going into details I want to impress on those of you who are not familiar with this method of bringing out the latent rale that it is a very simple and yet a very effective means of discovering rales which would otherwise be overlooked.

It is not astonishing to me that so few general practitioners use this simple method. When I graduated nothing was known about it and even now the average recent graduate has not been sufficiently impressed with its importance to make use of it. Nearly every man doing T. B. work uses it as a part of his routine examination.

You will find it difficult sometimes to get patients to catch on to the method. With a little patience you will soon have them expiring, coughing and then inspiring and then you will be surprised when you hear a shower of rales that you would have missed without this method.

Occasionally I find a patient who does not catch on. I show him—go through the act myself. I tell him to cover the mouth with a gauze handkerchief and imagine that it is a window

*Read at fifteenth annual meeting Medical Society of Virginia, in Richmond, October 28-31, 1919.

pane on a cold morning and to blow the breath out as fast as possible (as we used to blow on the pane and mark with the finger when children), then give a quick hack or cough (into the gauze) and immediately take a fairly deep breath and to keep on doing it each time I move the stethoscope.

To make it easier for the patient, tell him to imagine he has a large mouthed bottle in his hand and blow all his breath into it and then cough and take a deep breath.

Expire fully, cough, and quickly take a fairly deep breath, that's all.

HEMOPTYSIS.*

By EVERETTE E. WATSON, M. D., Salem, Va.
Physician in Charge, Mount Regis Sanatorium.

The word hemoptysis, as used in this paper, implies bleeding from below the larynx and, for convenience, we designate the amount by such terms as streaks, small, large, and copious hemorrhages. Few conditions which we are called upon to treat are more alarming to both the patient and physician than a copious pulmonary hemorrhage, and the frequency of its occurrence should make the management of such cases a matter of intense interest to the general practitioner and specialist alike. Statistics show that blood-spitting occurs in about sixty per cent. of those clinically tuberculous. Assuming that there are twenty thousand cases in the State of Virginia, we can readily appreciate our responsibility, as not infrequently, mismanagement may change a favorable prognosis into one of utter hopelessness.

Occasionally there may be some doubt as to the origin of the blood which a patient has expectorated. Fortunately this only applies to streaks, as bleeding of over a dram practically always comes from below the glottis and is always accompanied by a cough. In nasal hemorrhage the bleeding usually comes from the anterior septum, and if from the posterior nares, blood can be blown from the nose and there is not present that characteristic "rattle" which can be felt by the patient and easily heard when the blood reaches a large bronchus. Blood from the gums is uniformly mixed with saliva. Bleeding from a lingual varix or diseased tonsils is so rare as to be negligible, while hematemesis as a rule is easily excluded. Unfortunately we are prone to look for the unusual and endeavor to find a bleeding point in the larynx or pharynx, and I have seen many patients who have lost their best chances of recovery as a result of not obtaining a proper diagnosis at the time of the initial hemorrhage. Too many patients are lulled into a false sense of security by the always welcome and consoling advice that, "it comes from your throat," "is merely a result of a strain or cold," or "that is nothing; anybody may spit up blood occasionally," later to be awakened to the painful realization that they are showing classical symptoms of advanced tuberculosis. Frequently the physician may be ignorant of the underlying pathology causing the hemorrhage, but too often he is merely sidestepping an unpleasant duty, and assuages his conscience with the erroneous belief that the truth would so alarm the patient as to take all the "fight" out of him.

After determining that the blood is from the lungs we are told by all the text-books that it may be due to one of twenty or more causes, i. e., tuberculosis, siphylis, pulmonary abscess, aortic aneurism, vicarious menstruation, pulmonary infarct, passive congestion from kidneys or heart, leukemia, hemophilia, purpura hemorrhagica, actinomycosis, and others. Suffice it to say *that every case of hemoptysis, in the absence of severe renal or cardiac disease, should be considered tuberculous until proven otherwise.* The fact that we are unable to find a lesion by physical diagnosis does not mean that the patient does not have tuberculosis. To quote Cabot: "I do not deny that the causes of hemoptysis are numerous, but I assert that the causes of genuinely obscure hemoptysis in temperate climates may be reduced to one—pulmonary tuberculosis." Lord reports 30 cases from the records of the Massachusetts General Hospital, in which the hemorrhage was "out of a clear sky" and not followed by symptoms other than scanty expectoration. Twenty of these had positive sputum and the other ten came to autopsy as a result of other than pulmonary disease. Nine showed evidence of clinical tuberculosis and one had syphilitic ulcer of trachea and bronchi with rupture of a branch of the pulmonary artery. From a

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study of 549 cases of hemoptysis Lord comes to the following conclusions: "To judge from these cases, it may be stated as a clinical rule, subject to rare exception, that hemoptysis out of a clear sky, or when cough and scanty expectoration alone cloud it, is due to pulmonary tuberculosis. The rule seems to hold as well in those cases in which the hemoptysis occurs during a mild acute respiratory infection, after exertion, moderate injury or without any apparent cause." With our present knowledge of physical diagnosis, combined with the aid of careful laboratory and X-ray examinations, there is usually little difficulty in excluding the previously mentioned possible causes of hemoptysis.

Several years ago I expressed the opinion that vicarious menstruation never occurs from a healthy lung. In confirmation of this, Dr. Frederick T. Lord, of Boston, in a paper on hemoptysis read before the National Tuberculosis Association in 1916, says: "Our records (of autopsies at Mass. Gen.) are of interest in a negative sense in their failure to confirm the still too prevalent belief that vicarious menstruation is an adequate cause of hemorrhage, no example of which is found in the autopsy series. This and other evidence indicates that it cannot properly be regarded as a cause apart from some pulmonary lesion which is tuberculous in the great majority of cases." Dr. C. L. Minor, of Asheville, has never seen a case of vicarious menstruation (Klebs). It is a well recognized fact that tuberculous women most frequently bleed during the premenstrual period, and I have seen cases that have monthly recurrences over a long period of time.

Treatment.

The treatment of hemoptysis may well be divided into (1) prophylactic, (2) immediate, and (3) post hemorrhagic management.

Patients known to be tuberculous should always be cautioned against over-exercise, such as lifting, running, pulmonary gymnastics, singing, etc. Women with a tendency to hemorrhage should be urged to be particularly careful during the period of systemic plethora just prior to menstruation.

In the case of streaks or small hemorrhages, it has been our custom to merely reassure the patient, ascertain that the bowels are open, and quiet the cough, if present, with small doses of codeine. In large hemoptyses, the patient is usually greatly alarmed, and the quieting and soothing effect of the mere presence of a physician or nurse in whom he has confidence, plays a great part in controlling the bleeding. Frequently he may become so terror-stricken as to necessitate the administration of a sedative, and codeine, gr. ¼, usually meets the requirements in that it quiets the patient and at the same time controls the cough. I wish to take this opportunity to emphasize the importance of avoiding, when possible, the use of morphine in ¼ gr. doses, which deadens the terminal nerve filaments and allows the blood to clot in the surrounding healthy lung, and may set up a broncho-pneumonia with a resulting spread-out of the disease process. The nitrites are valuable, since it has been proven by Macht that they cause a general vasodilatation, thus lowering the systemic blood pressure and at the same time causing a vaso-constriction of the pulmonary vessels. A pearl of amyl nitrite is broken before the nose at once, and nitroglycerine, gr. 1-100, is put upon the tongue. The physiological effect of this lasts about forty-five minutes, and in the meantime sodium nitrite, gr. 1, or tincture veratrum viride, gtt. IV or V is started, being given q-3-h. The blood-pressure is recorded every few hours, which is a guide to the dosage. We usually put the patient on a back-rest at 30 degrees, which is the ideal position of rest and one that facilitates the expectoration, thus avoiding swallowing much blood with the resulting nausea. If possible the patient should lie on his back, but we usually advise a position which minimizes the cough. An ice-cap over the heart may help allay its action. Of the various drugs recommended by different authorities I have tried atropine sulphate in 1-50 to 1-25 gr. doses, emetine, gr. ½, coagulose, etc., but they have not been helpful in my hands. Horse serum may be of value, and in two instances I have used diphtheria antitoxin when the horse serum was not immediately available. Strapping the chest with adhesive is often beneficial. Adrenalin and ergot are of doubtful value, and I have only tried them when I was positive that the bleeding was of the congestive type.

The post hemorrhagic treatment consists of

(1) mental and physical rest, (2) medicinal, (3) dietetic, and (4) artificial pneumothorax.

Following a large hemorrhage the length of time the patient should stay at absolute bed-rest depends on the general condition, the stage of the disease, the presence or absence of constitutional symptoms, etc., but I do not believe that we are ever justified in allowing any patient to begin walking under two or three weeks. Many patients use a commode by the bed with less exertion than a bed-pan. He should be cautioned not to lie with his arms above his head, not to "fidget," and to take no deep breaths. A nurse should feed him for the first few days. Of course, mental is as essential as physical rest, and he should be protected from worries, visitors, etc.

The cough, if present, should be controlled by small doses of codeine, which also quiets the patient and allays nervousness. The blood pressure should be kept low by nitrites or veratrum. The coagulability of the blood may be increased by the use of calcium lactate, gr. XV-t.i.d., for two or three days. The bowels should be kept open with occasional doses of magnesium sulphate, which depletes the vascular contents, thereby indirectly increasing the coagulability. Cardiac stimulants should as a rule be avoided, but digitalis has been used in an effort to stabilize the blood pressure, on the assumption that rapid changes in pressure tend to cause bleeding.

If the hemorrhage be large, it is well to allow no food for twenty-four hours, and to limit the intake of water to a minimum, and at the same time keep the patient comfortable. All food should be given cold and in very small amounts at first, gradually allowing more and more until in four or five days a general tray is permitted. Avoid oranges, grapefruit, lemonade and other fruit acids which tend to lengthen the coagulation-time of the blood.

Frequently, in spite of everything that can be done, the hemoptysis will continue to recur. In those cases having one lung not too seriously involved, we can collapse the bleeding lung (artificial pneumothorax) and obtain brilliant results. I feel that we have been able to save several cases that would have succumbed without its use.

A specially trained tuberculosis nurse is invaluable in these cases, and I trust the day is not far distant when every community will have a sufficient number to meet its needs.

In presenting this subject I am fully cognizant of the fact that the last word in the treatment of hemoptysis has not been said. I do wish, however, to impress upon you the seriousness of this symptom, which is too frequently treated lightly and even thought to be beneficial. Remember that it usually means pulmonary tuberculosis. Avoid over-treatment. Eschew morphine if possible. Mismanagement may convert a favorable case into one of absolute hopelessness.

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS.*

By W. E. BROWN, M. D., Catawba Sanatorium, Va.

On account of the prevalence of tuberculosis throughout the civilized world, and because it is the cause of more deaths per annum in our country than any other communicable disease, and also on account of the fact that it has been in the past the tendency of a great many of us to make a diagnosis of tuberculosis and then "lay down on the job" because we considered the case hopeless; I have decided to give you a brief synopsis of what I believe to be the most common-sense methods in the treatment of this disease. These conclusions I have reached after the study and observation of over four thousand cases of pulmonary tuberculosis at Catawba Sanatorium and in the tuberculosis hospitals of the United States Army.

A great deal can be done for these cases: quite a large number can be benefited and some of them arrested, if treatment is properly carried out and persevered in for a sufficient length of time. I realize that the number of cases of tuberculosis is so far in excess of the available beds in sanatoria for treatment, that the great majority will have to be treated at home or receive no treatment at all. I would advise sanatorium treatment in every case where it is possible for the patient to secure it, if only for a few months, in order to get a proper start on the road to recovery and become trained as to the best methods of taking care of himself and of preventing the spread of the disease to others. After such a train-

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ing the continuance of the treatment at home is greatly facilitated.

We will divide our treatment into three classes: first, prophylactic; second, medical; third, general. The first two I will take up very briefly, and the third more in detail.

Prophylaxis includes these items: Sanitary sputum cups into which the patient expectorates, these cups to be burned after using. Gauze handkerchiefs with which the patient is to cover his mouth whenever he coughs or sneezes, these handkerchiefs also to be burned when soiled. Individual toilet articles, dishes, etc., for the patient. Boil the dishes, knives, forks, etc., each time after they are used. Train the patient to keep his fingers out of his mouth and nose; let him put nothing into his mouth except his toothbrush and his food and drink. Insist on bodily cleanliness; a warm bath at bedtime twice a week. Cases that are suspected of being heavily infected, but have not as yet developed the disease in a clinical form, can be treated prophylactically by seeing that they do not dissipate in either work or play, that they eat a sufficient amount of good, nourishing food, and take a proper amount of rest in the fresh air, preferably on a sleeping porch, which can be improvised in even the humblest homes without very great expense.

Medical treatment is to be limited to alleviation of intercurrent symptoms or complications. Cough, frequently one of the most annoying symptoms, will usually be benefited by rest. It is possible also to control cough to a marked extent by the exercise of will power. Where cough is persistent and severe, any number of reliable remedies, with which you are all familiar, may be used sparingly. I say "sparingly" because there is danger of digestive disturbances through overuse. Where we have a severe hacking cough without much expectoration, it is always well to examine the ears, as sometimes deposits of wax in the auditory canal will set up a reflex cough. Also make routine examination of the patient's throat. We frequently find enlarged lingual tonsils that can cause a great deal of tickling and irritation.

Several complications that we frequently meet with are indigestion, pleurisy and hemorrhage. The majority of cases of indigestion complicating active tuberculosis are due to a lack of hydrochloric acid in the gastric juice. These cases are often markedly benefited by giving from ten to twenty minims of the dilute hydrochloric acid in water after each meal. Pleurisy can be treated, according to its nature, by counter-irritation such as blisters, or painting with iodine, cupping and strapping with adhesive plaster. Hemorrhage is usually the most alarming symptom with which we have to contend, and the remedies that have been tried for this condition are multiple. It is generally conceded, however, that vasomotor depressors are indicated, such as the inhalation of amyl nitrite or the use of nitroglycerin and sodium nitrite to keep the blood pressure reasonably low. As soon as hemorrhage starts, the patient should be put at absolute rest, and the cough should be gotten under control as soon as possible by the use of small doses of codeine, morphine, or heroin. Severe coughing greatly aggravates hemorrhage and may cause a fatal ending.

We now come to the third and most important phase—general treatment. This consists of diet, fresh air and rest. The old idea of forced feeding has been largely abandoned, as experience has taught that it is likely to cause too many digestive disturbances and in that way give the patient a setback. The extravagant use of raw eggs is no longer advocated. Most stomachs will reach a limit of tolerati n, and from that point more harm than good will be done. Our present conclusions are that three good, substantial meals per day, with a glass of milk at each meal and a glass of milk between meals, are sufficient for the average case. Where the digestion is poor, it would be well to use more milk than in a case where the patient can assimilate a general diet.

As you all know, fresh air is absolutely essential to the well-being of any case of pulmonary disease. Much has been said in the past about the effect of climate on tuberculosis. Statistics from the leading sanatoria of the country show that the average patient can usually do just as well in his home climate as he can anywhere else, and good results can be gotten in the tidewater, in the Piedmont or the mountain sections, if the patient is properly cared for.

Since Brehmer and Detweiler, abroad, and, in our own country, Minor and Trudeau, were the pioneers in employing the rest treatment

for tuberculosis, this method of combating the disease has been generally accepted as our only curative agency, in the absence of that specific for which we have vainly sought since the days of Hippocrates. The foundation stone upon which we must build to reconstruct the health of the tuberculosis patient is rest. This does not mean sending the patient to a farm with instructions to rough it; it does not mean sitting in a chair on a porch and reading; it means rest in bed, with absolute relaxation. While the symptoms are pronounced it means complete rest; the patient is to study constantly how to relax as completely as possible, and how to make as little physical exertion as he can. Absolute rest will accomplish apparently wonderful results in some very bad cases. Cough is greatly relieved, expectoration is lessened, temperature is reduced, and rapid pulse is lowered. The tendency is to gain weight; and with this alleviation of symptoms will come a corresponding rise in your patient's spirits; cheerfulness and hope will take the place of depression and hopelessness.

The point that the majority of us have failed in the past to realize the importance of is that, between the active stage when a patient is coughing, expectorating, has a high pulse and is running temperature, and the point wherein the disease has become definitely arrested, there is a stage of quiescence of symptoms which is so frequently taken to mean that the patient is able to return to his usual duties. After all symptoms have subsided under the rest treatment and the patient is in this so-called quiescent stage, we come to the hardest part of our management in these cases. The patient feels that he is about well; the family believes the same thing, and oftentimes unwittingly the family and friends are the worst enemies that the unfortunate patient has to contend with. After symptoms have subsided we should allow only very moderate exercise —say fifteen minutes of slow walking once or twice a day. If, after a week or two, you find that exercise for fifteen minutes twice a day is agreeing with your patient, increase it to thirty. If he can hold that all right without arousing any symptoms for a week or two, increase it to forty-five minutes, and so on gradually until the patient can do a fair day's work. We can never consider a case arrested until he has gone at least six months without any physical signs or symptoms, and it is best never to let a patient consider himself as being absolutely cured.

Recoveries under proper treatment may be expected in 75 per cent of incipient cases. Our records at Catawba Sanatorium show that about 70 per cent of the moderately advanced cases treated there were benefited by the treatment, and about 62 per cent of the far advanced cases improved during their sanatorium stay.

Because his observations were based on ten years' experience in the home treatment of tuberculosis, I shall refer to a discussion on "Results Obtained by the Class Method of Home Treatment in Pulmonary Tuberculosis," by Dr. Joseph H. Pratt, of Boston, Mass. A church Bible class undertook to provide treatment for tuberculosis patients in their own homes in Boston. From the outset insistence was placed on rest in the open air. Patients lived on roofs or on the ground in tents or shacks, or on porches. As time passed more and more insistence was placed on absolute rest in the active stage of the disease, even in cases which showed no fever. Patients in all stages of the disease were admitted; no one was refused who promised to follow instructions faithfully, but strict obedience to the rules was required. From July, 1905, to July 1914, Pratt's class roll numbered 189 patients. The later careers of all but four of these patients were traced, and Pratt reported in 1916 the following results:

Well and working	104
Living but unable to work	14
Deaths	69

(Of which 29 occurred while patients were class members).

Fifty-six per cent of all those admitted to the class in the nine years were restored to health.

Pratt emphasized the importance of prolonged rest out of doors. During the first two years he said he allowed his patients graduated exercise in the form of walking as soon as they were free from fever, the pulse slowed and the weight increased. Later, he did not allow exercise until in his opinion the active disease had been definitely checked. Patients were often kept at rest for months, but, if they had no fever, were allowed to go to the lavatory and to take their meals at the table.

Strict rest treatment in bed showed best results.

The rest treatment in general practice is the hardest part of the cure with which the general practitioner will have to contend. It will pay you to be pefectly frank with your patient and his family as to his condition, and explain carefully but tactfully to them that there is very little hope of a recovery unless your orders are conscientiously obeyed. Be absolutely firm and unyielding on this point, and I believe you will be agreeably surprised at the results.

ARTIFICIAL PNEUMOTHORAX.*

By FRANK G. SIMMONS, M. D., Salem, Va.
Mount Regis Sanatorium.

Forlanini, of Italy, first suggested artificial pneumothorax in 1894, and John B. Murphy, of Chicago,—working independently—published reports of his experiences with it about the same time. However, as a therapeutic measure, it received little more than local attention until Brauer and Spengler, of Switzerland, and Floyd and Robinson, of Boston, gave to the profession the results of their exhaustive experiences. The latter two did more to establish the process in this country than any other of the early workers.

Since the publication of these reports in 1909, no one feature in the treatment of pulmonary tuberculosis has been more generally adopted by the sanatoria of the country. Its efficacy is so well established, its benefits so frequently proven, that cases of remarkable recoveries are a part of the records of every sanatorium using it. Unquestionably it is the most effective form of treatment we know for the progressive case of any stage. "It is the only treatment for pulmonary tuberculosis we have which will in a short time produce results that are really appreciable" (Shortle). A number of our cases are sufficiently dramatic to arouse in us and those taking it, active enthusiasm, and while the time has not been sufficiently long in all to judge the ultimate results, their present conditions justify the belief they are to prove all we can hope for.

The objects of pneumothorax are to afford relief from distressing symptoms, and to check the progress of the disease. The first is accomplished by forcing out the pus and cheesy accumulations in the cavities and the inflammatory exudates in the alveoli and bronchioles, thus removing the main source of toxic absorption. This effected, the result is a decline of temperature, a lessening of cough, improved appetite and sleep and a general well-being of the patient. Compression also limits the diseased focus and prevents its spread; the circulation of the blood is impeded and there results a venous passive hyperemia which is an important defensive measure against the spread of the tubercle bacilli in the tissues. The lymph channels are compressed (Shigu), which limits the absorption of toxins from the lesion into the general circulation, thus removing the cause of fever, night-sweats, etc. By bringing the walls of the cavities and other diseased areas together, and arresting practically all motion, the formation of cicatricial tissue and encapsulation are favored, and nature given a better chance to repair and overcome the diseased condition. If the beneficial effects of lung compression are due to the rest afforded the part, it is a reasonable inference that the increased amount of work thrown on the other lung will have the effect of activating areas of infiltration and extending these to adjacent tissues. Theoretically this seems to be true, but the experiences of many others and ourselves are that this occurs in a gratifyingly small percentage of cases. According to Pottenger, the reason for this is the implantation of the tubercle bacilli through the blood stream or through the lymph channels, is not so readily attained, and anything that lessens the circulation either of blood or lymph would have a tendency to lessen the danger of a new infection.

In the selection of cases we are influenced by the condition of the bad lung, the degree of trouble in the other, the results of past treatment and the almost inevitable outcome if present therapeutic means are continued. It has been the rule at Mt. Regis Sanatorium to give pneumothorax only in the unfavorable cases, the ones that have been given a thorough trial of the usual sanatorium means, and have failed to respond. I think, however, we are over-cautious, for if the compression be properly made, harm seldom results. This belief has been emphasized by having some patients who did not conform to our rule of

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selection, make most gratifying improvement. Given a case with unilateral involvement, or an infiltration of all or part of one lung with a moderately diseased area in the other, if there are no complications, we feel justified and impelled to use compression. In many instances, conditions like the latter, where an increased burden is thrown on the lung, instead of manifesting a tendency to extend the infected areas, promptly improve. This is most probably due to the improved general condition resulting from the lessened toxemia, decrease of cough and fever and increased appetite. Fortunately, if the better lung should prove unable to carry this extra duty, we can permit the compressed part to re-expand gradually, or remove the gas promptly, if need be, and no harm has been done. In cases where there is an extension of the diseased areas it is unfair to attribute it to the added duties, since always there is a tendency of the disease to disseminate. In judging the amount of gas to be given, one has to be governed by the size of the patient, the presence or absence of adhesions and the effect it has on the recipient. The rule should be to give the least amount necessary to attain the desired degree of compression, and this to be administered cautiously, using from 250 to 400 c. c. at the first effort, and repeating this as often as necessary to maintain a uniform degree of pressure. Conditions in the thorax are not the same in all patients; the mediastinum is more easily affected in some, and since the compression must be confined to one lung, the immediate effect on the other must be kept in mind. One patient may stand comfortably only a —2 or 0 pressure (cm. of water), while another can take a +20 to +30 (when used to break adhesions) without material discomfort. Our method is to inject 200 or 300 c. c. first, and repeat the following day; then gradually lengthen the intervals by skipping one, two three days, and so on—just slowly compressing until full collapse is attained—always guarding against embarrassing either the respiration or circulation. Rest after compression is always desirable, and, when this is possible, should be insisted on. In some instances, however, when the cases come from a distance or are engaged in work, it is not practicable; and since these are "old cases" and we are familiar with the effects, the dangers are lessened. For physiological reasons, though, all patients beginning compression should be kept strictly in bed. We strive to maintain a uniform pressure, and to do this a close watch is kept over the patient, and pressure kept at the point at which we cut off the gas at the last operation.

The use of the fluoroscope is a most valuable aid in following cases. It enables one to judge more accurately the particular needs, the effects of pressure on the mediastinum, the presence and location of adhesions and accumulations of fluid; also to be sure of conditions, for the determination of which we have always depended on our stethoscopes, and which are not always conclusive, since, with a partial collapse, we hear sounds very similar to those given by a full compression. Its use clears up doubt as to the presence of adhesions, as in cases of refills when only from 50 to 150 c. c. can be given. By illumination some of these are seen to have full compression and not in need of gas.

The X-ray is particularly helpful in enabling us to watch the effects on the *free* lung, and in clearing up uncertainty arising from auscultatory sounds.

In preparing to administer gas, it should not be forgotten that it is a surgical operation, and that careful technique is essential to success. The field and instruments should be made clean. This done, the site of puncture should be over healthy lung tissue if possible, thus avoiding adhesions which are more often found over inflamed areas. The anterior or posterior axillary line is usually chosen; the ninth interspace being commonly used. If it be best to make the puncture higher, the third interspace near the anterior axillary fold is selected. The skin having been painted with iodine and this washed off with alcohol, a small needle is used to introduce the required amount of one-fourth per cent. novocain under the skin, then a larger and longer needle carries it slowly through the tissues to the pleura, which is fully anæsthetized. Some operators do not use any anæsthetic, but since small amounts of novocain do no harm, it is preferable to save your patient this pain, and the dread of subsequent operations. Then, too, there is the pleural shock to consider. Whether or not there be such a condition as

"pleural shock," we think it best to guard against the possibility and the acute pain caused when the needle touches the parietal pleura.

At our first effort after anæsthesia, we use a large needle of the Floyd and Robinson blunt type. This minimizes the probability of going through both pleural walls. After they have been separated by gas, we use a smaller one, since there is little danger of touching the visceral wall if you proceed cautiously and watch the manometer, and *understand* its movements. Artificial pneumothorax is not to be trusted to unskilled hands. It requires knowledge and surgical judgment to make it effective.

The most satisfactory results from pneumothorax can be had only when you are able to keep your patients where constant supervision is practiced. Some operators refuse to accept cases that cannot come to their institutions, and while this is preferable and should be insisted on whenever possible, there are occasions where it is not feasible. Some of our patients are men who are, and have been for a number of years, working steadily. They come at stated intervals for examination, and if in need of it, gas is given, when they return to their homes without any unpleasant or unfavorable symptoms. All, however, are cases who have been taking gas for several years, and for that and the further reason we know its effects, we consent to administer it. We would not accept for compression any case that we could not see as often as necessary for several months. Pleurae once separated by gas tend to adhere very quickly if permitted to again come in contact, and for this reason frequent examinations are necessary, and constant general supervision desirable.

The question as to how long to continue compression is one difficult to decide. There is no rule by which it can be determined; hence we have to be influenced by the general condition after a careful study of the case over several months. Some are inclined to continue the process the rest of the patients' lives; yet there are not a few instances where lungs have been collapsed for less than one year, such patients not infrequently finding themselves placed where it was inconvenient to reach an operator, and have given it up and gone on without harmful results. In an *average* case the lung should be kept down for three years, and if there is cavitation it is doubtful if it should ever be permitted to re-expand.

Summary.

1. Carefully select your cases, using compression *only* after the patient has failed to respond to the usual therapeutic means.
2. Use the same care in the preparation of your instruments and field you would if doing an abdominal operation.
3. Begin with small amounts of gas and very gradually make compression. Be sure the point of your needle is in the pleural cavity.
4. Watch your cases closely, and check your auscultatory findings with the fluoroscope if possible.
5. Give for effect. Be not satisfied with the fact you have given gas.

TUBERCULOSIS AND THE GENERAL PRACTITIONER.*

By H. G. CARTER, M. D., Burkeville, Va.,
Resident Physician, Piedmont Sanatorium.

This paper has been prompted by the appearance of several articles in certain leading medical journals in the past six months, in which it is suggested that the medical profession is over-zealous in making an early diagnosis of tuberculosis. This contention is not borne out by actual observation in tuberculosis sanatoria, either in the North or the South. Over sixty-five per cent. of the cases received by the sanatoria are still of the advanced type.

It might be said that the diagnosis of Incipient Tuberculosis is at present in an unsettled state. Specialists in this disease are contending among themselves concerning the real significance of rales after cough and heard elsewhere than at the apex or the significance of altered breath sounds at apex without rales. Many sanatoria are classing cases as suspicious which were originally classed as incipient tuberculosis.

Two things acting together and independently of each other have brought the whole subject of tuberculosis into the limelight in the past two years—war and influenza. There is no doubt that we will emerge from this

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period of research and uncertainty with a more general knowledge of tuberculosis among the laity as well as among the medical profession. A more modern conception of tuberculosis will supplant that held by so many of the laity and by some of the medical profession, which is so well expressed by Charles Dickens: "There is a dread disease . . . in which life and death are so strangely blended that death takes on the glow and hue of life; and life, the gaunt and grisly form of death; a disease which medicine never cured, wealth never warded off or poverty could boast exemption from; which sometimes moves in giant strides and sometimes at a tardy, sluggish pace: but slow or quick is ever sure and certain."

It is now quite generally agreed among research workers in tuberculosis that in a civilized community there are extremely few, if any, adult infections of tuberculosis. The individual has contracted the disease in childhood or has been rendered immune to infection. The disease then lies dormant in the body to develop into activity at the time of greatest strain, dissipation (by which is meant excess of any kind) or an acute attack of some disease being the contributing factors. When our draftees were examined, so many of these old inactive cases were demonstrated that certain diagnostic standards were promulgated for the acceptance or rejection of these draftees, and it is about these standards that controversy wages. In accepting or rejecting draftees it was not going far enough to pronounce the lung "not normal." The question was, "Is the abnormality an old healed lesion, or is it an active lesion?" Col. Bushnell and others have laid down certain standards for the separation of the two kinds of lesions—an important step, and so recognized in the Army. In civil life, however, the old inactive lesion seldom comes to the practitioner for an opinion. It is symptoms, not signs, that bring the patient, and if the symptoms are, directly or indirectly, referable to the respiratory tract, it puts a different aspect on a lesion that judged by signs alone might be considered inactive. Both prognostically and therapeutically, symptoms are of far more importance than signs.

The diagnosis of tuberculosis cannot be made on one sign, symptom, or history any more than a church can be built on one stone. The controversy over the fine points in the diagnosis of tuberculosis is of slight importance to the general practitioner who has before him the life and family history of the patient and time in which to observe symptoms. It is for *him* then to turn to the cardinal signs for diagnosis and prognosis, and let the research worker at the autopsy table fight out the significance of persistent rales occurring at other places than the apices.

The diagnosis of tuberculosis rests on three things—History, Symptoms, and Physical Signs. It cannot be said which of these is most important. In one case a carefully taken history fixes the diagnosis; in another, the symptoms; and in yet another, physical signs; but in all cases, carefully weighed evidence of the three is most important. A routine family history is of no value. A well-taken history in which careful inquiry is made as to the possible source of infection is, however, extremely valuable, especially so if positive. Not so much importance can be attached to a negative history because of the fact that the infection was, in all probability, received in childhood, and all the sources of infection cannot be recalled by the patient. It is not always the dying father or mother that sows the seed. It is only too often the transient boarder, the cook or visiting relative who, though still on his feet, is expectorating tubercle bacillus from a so-called "bronchitis" or "bad cold." Personal history is even more important when it is realized that tuberculosis travels in waves; each crest higher than the preceding. A protracted convalescence from an acute infection is always suggestive of tuberculosis. Each victim is given a number of warnings of the fate that awaits him unless he heeds the danger signals. Often after the diagnosis is made, a patient "understands," and can then go back in his history to a number of such warnings. This simply tends to show the latent aid in personal history that can be dug out by careful questioning, and which may be of inestimable value in reaching a definite conclusion.

The Cardinal Symptoms of Tuberculosis are:

Afternoon temperature:
Loss of weight, continuous and unexplained;

Dyspnoea, slowly progressive;
Pleurisy;
Hemoptysis;
Loss of strength.

Other symptoms are:

Cough;
Expectoration;
Loss of appetite.

Any temperature over 99.6° continuing for weeks and unexplained by local manifestations, warrants a tentative diagnosis of tuberculosis if signs are suspicious or a chance for infection has occurred. At least such a case should be held for observation. Hemoptysis means tuberculosis unless positively proven to be caused by a local condition existing in nose or throat. Blood coughed up from the stomach is so rare that it may be called a novelty. Only the strongest evidence to the contrary should justify us in dismissing the diagnosis of tuberculosis after hemoptysis, though ordinary signs and symptoms are absent.

There is no one sign pathognomonic of tuberculosis. It is true that there are certain localities (apices) which are usually the starting points of tuberculosis, but it is a safe rule to call tuberculous any *localized* and *persistent* pathological condition of the lungs as evidenced by rales after cough.

An Idiopathic Pleurisy always means tuberculosis unless otherwise proven, and the man who pronounces such a pleurisy "negative" for tuberculosis assumes a great responsibility.

Of all the physical signs there is one that stands out as most important; it stands supreme not only in diagnosis, but in prognosis. *This is the moist rale well localized, persisting after cough.* These rales are best elicited by having the patient start at rest, exhale and give a short, quick cough followed by a quick inspiration. Rales are best heard at the end of expiration and at beginning of inspiration after cough. The prognosis is made on the extent and character of these rales.

Rales heard in a sharply defined area which also gives whispered voice and dullness on percussion, signifies the existence of an old lesion in which nature is keeping pace with the lesion. If rales extend beyond whispered voice and there is dullness on percussion for a short distance on, nature is still making a good defense, but if rales are scattered over a chest area in which whispered voice and dullness are not present, the prognosis is grave indeed. The larger the rale the graver the prognosis. Rales can persist in a chest after the disease has become quiescent. This condition is found in the sharply defined area with whispered voice and dullness.

It is not within the scope of a short paper to go into the technique and detail of the physical examination, but to sum up some of the high points in tuberculosis work. A chest should be stripped for an examination. Inspection and palpation are of slight importance for practical everyday work. Auscultation should be thorough, even though rapid: once over the chest rapidly for whispered voice, once for altered breath sounds (the patient breathing rapidly with mouth open), and lastly for the rale after cough. A sputum examination is of some value in a supposedly far advanced case, but is of slight importance in the earliest cases, over fifty per cent. of these being negative.

One should bear in mind that tuberculosis causes more deaths than any other one disease and is the most reasonable explanation of that stubborn cough being treated. The fact that it improves by no means excludes tuberculosis; watch for its return and look for other signs and symptoms.

Of late very much has been written and said about the number of non-tuberculous cases in a tuberculosis sanatorium. There are undoubtedly such in every institution for tuberculosis; cases of syphilis of the lungs, new growths, etc., etc., that have never been culled out, and never will be. I cannot agree with an opinion recently expressed, that every advanced case of tuberculosis shows tubercle bacilli in the sputum. If this were true there would be one standard by which we could work, and patients with far advanced signs, but negative sputum, after six or seven examinations, could be returned home non-tuberculous.

The early case presents even more difficulty on account of the fact that the sputum is so often negative and diagnosis is made from signs, symptoms and history. But where there is one wrongly diagnosed case in a tuberculosis sanatorium there are twenty walk-

ing the streets with a diagnosis of "bronchitis," "cold on the lungs," "nervous breakdown," "typhoid settled on the lungs," "weak lungs," etc. Each one case sent to a tuberculosis sanatorium to have a "stigma placed on him for life" has its corresponding twenty continuing in active life until too late to live with the "stigma" despised by so many of the laity and a few of the medical profession. A careful examination and history would reduce to a minimum many of the errors on both sides. Better the "stigma" of tuberculosis on a living man than the diagnosis of "bronchitis" on a corpse.

The wrongly tagged "chronic bronchitis," etc., is advised to go to a tuberculosis sanatorium and learn how to protect himself by observing closely the laws of nature, and others by rigidly adhering to the sanatoria rule of covering his mouth and nose when coughing and sneezing.

On the other hand, the wrongly tagged case of tuberculosis is allowed to walk the street ignorant of the virulence of the deadly tubercle bacillus he expectorates at every cough, ignorantly fondling and kissing the susceptible infant and mingles freely with others as ignorant as himself. It is not the "down and out" bedridden case that is the greatest menace, but the patient on his or her feet, still on the "job" and ignorant of the true nature of his or her trouble, and upon the general practitioner rests the responsibility of ferreting out these cases and getting them under proper supervision. There are thirty or forty thousand such cases in Virginia today.

DISCUSSION.

Dr. C. R. Grandy, Norfolk: It was with a great deal of pleasure that I have listened to the papers that have been presented by the members representing the different sanatoria of the state, especially so, as I from considerable experience have learned of the valuable work the different sanatoria of Virginia are doing and have learned that the patients who go to the sanatoria under the care of these men get as good results as they get anywhere in the United States. Indeed, I feel it has been my experience and that of everyone present, that the people that go to Catawba have wonderful cures. These people come home and stay in good shape better than people that go to a distance.

I feel that Dr. Carter's work among the negroes, although it has not had time to show very much result, is opening up a most fertile field, because this work is in a new field and Virginia stands out as the first to do this work and as the only state doing it so far, but the other states will follow in her footsteps.

The paper by Dr. Watson was most instructive: I would like, however, to bring out one means I have been using for a number of years and have found very helpful. This treatment is to reduce the blood pressure and relieve the cough. We found that a mixture of chloroform, creosote and alcohol acts very well.

Most cases that we see at our clinics are poor, ignorant people. We advise these people to keep up their work and regularly take treatment, but put them to bed and try not to give any opiates in case of hemorrhage. Horse serum has done good in persistent cases.

I used to think I found incipient cases of tuberculosis. I am afraid I do not find them any more. The reason is on account of the histories. If you take the histories carefully you will find that they had some symptoms going back a number of years. A patient with symptoms for one or two years or longer is not a beginning case whatever the lung signs may be.

One other point is dispensary work. The history is one of the most important things you can take and should not be left to the nurse, even in going over a large number of cases, as she can fill in only a certain amount. If we leave it to the nurse, in so doing we may lose a great many important things which bear on the case, because the individual resistance is the most important thing that we have upon which to build our idea of the prognosis and to find out how the case is going, and we can only guess that when our record histories do not bring it out.

Dr. B. L. Taliaferro, Catawba Sanatorium: Many good points have been brought out in these papers, especially the point by Dr. Carter in his most excellent paper about resistance and infection. I am in the habit of telling patients at Catawba that practically every one has gotten the germ into the body at some time in his life. I illustrate the difference between infection and the disease in this way. Suppose we have a three foot dam and one such of water in the dam. It would represent the slight universal infection among the general public and the dam would represent the resistance which keeps them well. Let the water rise higher and higher until it commences to flow over and at the same time, let the dam be partly destroyed, this represents the active disease as a result of lowered resistance and spreading infection from the original focus which may have been present since childhood. Just about this time, if the patient begins to take care of himself by resting in the fresh air, he begins to improve, the disease subsides and becomes latent again. This corresponds to building up the dam and opening a sluice gate to allow the overflow of water.

When the patient goes home, I tell him to imagine that he is like a man walking on a fence or on a tight rope; if he is careful he won't fall. Some cases who are in better shape I may compare to a man walking on a nine inch wall, which is much safer, and others walking on a three foot path, which is safer still.

Dr. A. M. Burfoot, Fentress: The Local Exemption Board of Norfolk County was the second largest in the United States. Due to a large population of negroes we of course had many negroes to examine. Some interesting facts developed as a result of this, chief of which was the large number showing evidences of tuberculosis. These of course were refused for military service and returned to their homes. So far as I was able to trace those who were sick with influenza during the epidemic died. Not all of them were sick with influenza and we yet have

many in our County who stand out as a menace to public health. It is almost impossible to do anything with these negro T. B.'s in their homes. So now that we have a Sanatorium for negro T. B.s it seems to me that some effort should be made to locate all these, and those that it appears might be benefited by treatment should be placed at Piedmont.

I have been impressed with the fact for a long time that it is the duty beyond question of every physician in our state as soon as he finds a case of T. B. to take immediate steps to have such case placed in one of our Sanatoria. I have noted with a great deal of pleasure that every patient who returns comes back a walking and talking advertisement for the work done and likewise teaches his neighbors and family the danger of "The Great White Plague," and how to live and protect his neighbor. I believe it worth the while of any to visit one of our institutions engaged in treating tuberculosis and they will be well repaid by recognizing the great and good work there being done. I have personally done this. While down at the N. C. Sanatorium to see how they did the work there, Dr. McBrayer, the physician in charge, informed me that the results from patients sent back home, whether cured or not, was no doubt far reaching in its effect, because of the familiarity of the patient with treatment and his ability to warn and instruct his fellow man, and to further assure him that a cure awaits him too, if only he will take advantage of the opportunity offered him.

Then, gentlemen, you readily see how important it is to at once insist and demand that every case we recognize (if it be in time) be placed in an institution devoted to the care and treatment of these cases. The effect is primarily twofold as above outlined, and yet many fold more than we at once think for.

CLOSING DISCUSSION.

Dr. Taliaferro: We find the fluoroscope a great help in our artificial pneumothorax work.

Dr. Jones hit the nail on the head when he said, "Strip the patient to the waist and examine the chest carefully." More errors are made by omission than commission. We so often do not use the knowledge which we have.

Dr. Watson: In answer to Dr. Grandy, will say that I have in one case tried chloroform and while it stopping the bleeding, apparently, it caused nausea in spite of the fact that very little chloroform was used. The retching caused a recurrence of the hemorrhage. It was advocated a few years ago, but it seems to me that we have other things like codeine, and if necessary, small doses of morphine, which meet the requirements so well that I really see no advantage in using an irritant like chloroform.

In answer to the question regarding tonsillectomy, will say that I consider it very important to have all diseased tonsils removed. The one thing that I wish to emphasize is to have them all done under local anesthesia. In my opinion, ether or chloroform should not be used, but nitrous oxide is permissible if an expert anesthetist is available. We have a great number done under local anesthesia with no bad effects and our patients do not complain of the pain. I know that a great number of specialists prefer to use a general anesthetic, but as yet I am not willing for my patients to have anything but local anesthesia. It is also very important that patients with tuberculosis have a good nose and use it. Mouth breathers are prone to develop a tuberculous larynx and all of them have a chronic laryngitis and pharyngitis.

Someone has asked about the value of the X-Ray. This depends upon the man who interprets the plates. The X-Ray is of undoubted value and I think, when possible, should be used. The best results will be gotten only by the clinician and X-Ray man working together, and what is better, probably, is for the clinician to study the plates himself.

Dr. Brown: The details of the home treatment I leave to the common-sense of the doctor in charge of the patient, as it was too much to try to get in the paper.

It is absolutely essential that your patient should be comfortable when sleeping out-doors, otherwise he will not sleep out. Speaking about the foot warmer, the best thing of the kind that I have ever seen is a stone jug, flattened on one side which we call a "pig." I do not know where it is made and the only place that I know to get it is from Mr. Brauer, at Catawba Sanatorium. If you fill this "pig" with boiling water and put it in the bed, if there is plenty of cover on the bed, it will stay hot all night.

In regard to the use of opiates in hemorrhage, I do not advocate the use of large doses of opium, only small doses, just enough to keep the cough in control and not to be given for any considerable length of time.

Dr. Carter: Just a word to emphasize one point brought out by Dr. Grandy in regard to the importance of the work at Piedmont Sanatorium. Our annual report made to the Commissioner and the State Board of Health shows that twenty-five per cent of the cases admitted follow some occupation which throws them into intimate contact with the child, such as cooks, nurse girls, etc., and as the future fight against tuberculosis depends on the protection of the child, Piedmont holds a place of equal importance to any institution in the State.

Dr. Taliaferro: I just want to say that I agree with Dr. Carter in the importance of Piedmont Sanatorium for the prevention of tuberculosis.

Dr. Simmons stated that he had nothing further to say.

A SIMPLE METHOD CONTROLLING SECONDARY HEMORRHAGE AFTER OPERATION FOR PILES.*

By R. BRUCE JAMES, M. D., Danville, Va.

I wish to submit for consideration a simple method of controlling hemorrhage after operation for hemorrhoids.

One of the most annoying accidents that can happen to a surgeon's patient is hemorrhage following operation for hemorrhoids. It does not happen often, but when it does—and especially when it is secondary, that is, some days after operation—it is not only annoying, but alarming and dangerous. Such hemorrhages are peculiarly depressing to patients, and will produce shock quicker than hemorrhage from any other part of the body,

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

except parts of the peritoneal cavity or cranium. I recently had a male patient who the third day after the operation had a rather profuse hemorrhage with alarming collapse and shock, and complete disappearance of the radial pulse. The same amount of hemorrhage from the uterus of a woman would not produce any serious change in the pulse. The methods of controlling such hemorrhage as given in text books are generally efficient, but painful and awkward and at times not applicable. The common procedure is to anesthetize the patient, put him on the operating table, clamp and tie the bleeding points. If there be general oozing and bleeding from many points, packing with gauze will be necessary, but all are uncertain and often call for repacking.

The case referred to did not admit of anesthesia or packing, or being disturbed in any way; to keep the patient alive until the hemorrhage could be controlled was no simple matter. Here, as in many other cases necessity proved the mother of invention. I devised and quickly made a simple but effectual apparatus for controlling this hemorrhage without disturbing the patient, by slipping a rubber glove-finger over a glass tube three inches long, and wrapping the open end of the glove finger securely around the near end of the tube, and attaching to the projecting tube a rubber bulb such as is used in a common atomizer. By inserting this rubber-covered tube between the sphincters and pumping in air, sufficient compression was produced to control the hemorrhage, with no pain or distress to the patient and without disturbing him in the least. A clamp was placed on the rubber tubing, and the apparatus was left in place for three days when on removing the clamp the air escaped and in an hour or two the apparatus had come away without the knowledge of the patient.

Now, this simple apparatus worked well in this case, and I believe saved the patient's life, but it is very defective in that one cannot tell while using it whether there be internal hemorrhage or not. I have had made a tube that avoids this difficulty, and will allow any fluid or gas that collects in the rectum to pass out. The tube should be made of hard rubber with proper stop cock attachment. I find it necessary to use two or more glove fingers as one might give away under the pressure. A Barnes Bag might be used for this purpose, but whoever in an emergency got out a Barnes Bag that was not old and useless?

DIAGNOSTIC POINTS FOR RE-EDUCATION OF NEGLECTED PARESES.

And Similar Impairments of Motion.

By J. MADISON TAYLOR, A.B., M.D., Philadelphia, Pa.
Professor of Physical Therapeutics and Dietetics, Medical Department, Temple University, Philadelphia.

The conviction grows upon me through experience, that the re-education of impaired muscles will be best achieved by keeping certain significant phenomena in mind and proceeding in an orderly exploration from one group to another. Let us take as a typical illustration a neglected hemiplegia. We have here all of the major phenomena to be dealt with. Of primary importance is the age of the individual, the previous or general condition, especially of musculature, also the length of time the lesion has persisted.

To the patient the objective points should be explained in advance, and be told explicitly that whatever rehabilitation is possible can only be approximated by giving ample opportunities for observation and by pursuing each avenue of diagnosis. In short, when one cause for uncertainty is reduced the others come into view, and not till then. The outcome depends on what shall be found, and ultimately upon the quality of cordial, frank, hopeful cooperation. The elements of the problem are, among others:

First: The status of impaired cortical (cornual or other) cells or areas. How much these cells can be restituted or retrieved can only be determined after removing the peripheral and psychogenic limitations and by learning the capabilities of the individual for cooperation.

Second: The status of the physical or mechanical depreciations, the disabilities, the resulting contractures, the fibrous and tendinous adhesions or shortenings, the joint immobilities and also a feature seldom counted upon, viz.: tonic protective spasm, along with tenderness partly physical and partly psychopathic. Soreness on movement, passive or active, is a point

to which attention is especially invited, being one rarely mentioned.

Third: The status mental (volitional, affective, psychogenic) of the individual, how his personality reacts to the affliction, to the radical changes wrought by the disability in sociologic competence compounded of fear, anxiety, suspense, protracted discouragement, merging into gloom or subsidence of volitional control, of initiative, of capacity for sustained effort. Also I would call special attention to another element seldom appreciated, one which seems never to have been mentioned: *lack of primary training in precise neuro muscular coordination.* Most persons, young or old, perform customary movements, those normal to a group of muscles in accord with design and through acquired automatisms, rarely with conscious appreciation of the laws of precision in direction, degree of transmission and *graduation of force from full relaxation with increasing power to full tension*, also the coordination of each of the muscles involved whereby the more primitive and habitual movements are completed.

Fourth: Residual deep seated tendernesses exist in almost any long disused group of muscles and their fibrous elements, in both of these will be found hypersensitiveness on localized pressure. This soreness is seldom suspected, only being learned upon deep palpation or passive movements and when discovered accidentally is often accredited to some adventitious origin, such as that scapegoat "rheumatism." And yet these hypersensitivenesses act as discouragement movements and often constitute an important part of the total disability. They are compounded in part of fibromyositis, in part of tonic protective spasm, and that sensorimotor something, or state of cellular consciousness not as yet explained.

Fifth: Last to be mentioned—though there are doubtless other factors yet to be revealed—the general deterrent effects of disuse crippling of which so little note is taken. Through this protracted non-use a gradual apathy grows and becomes fixed and possibly incurable. It sticks in my mind that there never comes a time when there is not some little improvability in most pareses, provided the right methods for relief are applied and consistently pursued.

Thus the clinical problem comes to consist of such methods of handling the affected parts as shall enable one to learn by tactile apperception the tendernesses and what is causing them; whether over-sensitiveness of the muscles, fibrous structures, tendons; whether the element of tonic muscle spasm is appreciable, if so whether the tonic spasms are due to tranferred pains from over-sensitiveness due to other susidiary or secondary lesions at the cord levels, to irritated or exhausted interdiscal cells, and the complex disturbances of the vertebral arthroses or amphiarthroses and the like.

Likewise, it is necessary to appraise the situation, extent and degrees of muscular contraction, exerted upon fibrous and tendinous adhesions of the articular structures. Then, and not till then, can the physical disabilities as a whole be reckoned with.

Finally, the question must be determined: how accurately can the corresponding parts move, or be moved, the passive or active obedience in accord with design, and how efficiently can the individual in his present state obey or execute a mandate to perform precise normal movements. Always tests should be applied to the corresponding muscle group *first* in order to learn what the supposedly normal structures can perform.

A routine procedure which has served me well is first to place the subject at complete rest, lying in the most comfortable and advantageous attitude, and proceed to manipulate the structures with a view of appreciating the factors above enumerated. In this a two-hand movement is best, *one to fully support* and one to move the structure. In conjunction with these passive explorations there should be frequent encouragement to voluntary movement, making sure the parts are at their most advantageous positions to work from zero to what they can do at that time. Often after some days of training they can learn to do what they are capable of doing. Muscles can learn; they have a consciousness of their own.

Thereafter, diagnosis is a continuous process and is to be combined with treatment. As one point is determined it becomes a part of the total appraisement and as one or other of the disabilities yield, the tenderness, the tonic spasm, the contracture and the like, these form steps of knowledge toward the total diagnosis, prognosis and therapeutic testing.

Analyses, Selections, Etc.

Medical Schools in Virginia Must Merge to Obtain Fund.

The doctors of Virginia will read with interest the following extract from the Richmond *Times-Dispatch*, because no subject is at this time more important to medical men:

"Starting from New York, a committee representing the General Education Board of the Rockefeller Foundation, is coming to Virginia and other Southern States to make a survey of medical institutions, with a view of immediately endowing certain of these schools with funds from the gift of $100,000,000 which was announced Christmas Day by John D. Rockefeller.

"It was expressly stipulated by Mr. Rockefeller in making the $100,000,000 gift to the Rockefeller Foundation, that the major portion of the funds should be used for medical education and health work in the South. Announcement that the committee of the General Education Board would come South immediately to make the necessary survey before appropriating the huge fund, aroused Richmond medical men, who are anxious that Virginia benefit from the endowments.

"Under the present circumstances Virginia is ineligible for any part of the endowment. Its two medical schools, the Medical College of Virginia, in Richmond, and the medical department of the University of Virginia, at Charlottesville, are both State-owned. Under the policy of the Rockefeller Foundation endowments will not be made to one institution in a State at the expense of another, particularly when both are State-owned. Also, the Rockefeller Foundation has stated that higher efficiency is attained through concentration of efforts and wishes to endow where this policy is in effect.

"Until Virginia's two medical schools are consolidated this State stands little chance of securing any of the funds offered by Rockefeller, in the opinion of medical men. For several years the movement to consolidate the two State schools has been under way, but has not been successful. Governor Davis announced several weeks ago that he would present the matter to the coming session of the General Assembly, but medical men in Richmond, who are in close touch with the Rockefeller Foundation, stated that immediate action must be taken if the State desires to avoid the chance of losing the endowments.

"It was stated that unless the boards of visitors of the two institutions, or the General Assembly provided for the consolidation of the two schools within a short time, this State would continue to be ineligible for the endowments. On previous occasions tentative offers of $4,000,000 have been made should the two schools be consolidated, but with Mr. Rockefeller's new gift of $100,000,000, it is believed by Richmond medical men that $10,000,000 is available for Virginia.

"Several plans have been proposed for the consolidation of the two State medical schools, the one meeting with the most favor being the absorption of the Medical College of Virginia by the University, the combined institutions to be known as the Medical Department of the University of Virgina. Under this plan medical students of the University would be given their academic training at Charlottesville, and the Medical College property here would be maintained for the practical training of the students because of the wealth of clinical material afforded in Richmond and adjacent territory.

"Announcement that the committee from the Rockefeller Foundation is coming South caused medical men to predict that early action would be taken either by the boards of visitors or Governor Davis on the proposal to consolidate the two institutions in Virginia, in order to insure this State receiving its share of the large endowment fund."

In this connection, Dr. Edwin A. Alderman, president of the University of Virginia, later published the following communication in the *News-Leader*:

"I have noted with interest the published statement that it is the purpose of Governor Westmoreland Davis to recommend to the coming general assembly the appointment of a commission, assisted by trained experts in medical education, to study medical education in Virginia, and upon the basis of such study and after all the facts and conditions are understood, to make such recommendations as they may think wise to the end that medical education in Virginia be unified and the whole situation be made as efficient and logical as possible.

"This impresses me as a wise, thoughtful and necessary step on the part of Governor Davis, and I have great faith that if the survey is carried forward in the spirit contemplated in the appointment of the commission, highly beneficial results will follow.

"The present situation is not logical or satisfactory or efficient, and should be remedied. The issues at stake, however, are so vital to the institutions concerned, and so grave in their relation to medical education in Virginia and the South, that they should be studied with patient and scientific care, and I venture to hope that nothing will intervene to bring abont haste or precipitancy in action.

"I note that quick action is urged in some quarters on the ground that the general education board is making ready to "distribute" large sums of money immediately for medical education in the country and in the South. Indeed, I have seen it stated that a committee is on its way to make a survey of all medical schools with a view of immediately endowing certain of these schools with a portion of the $50,000,000 (not $100,000,000) recently given by Mr. Rockefeller for use in the fight against disease. I have had the privilege for many years of being a member of the general education board and know something of its spirit and the method of approach which characterizes it in the large matters of public welfare which command its interest. I have no authority to speak for the board as a board, but I do venture to say that it is utterly foreign to its methods and traditions to approach such problems in what might be called "a melon-cutting" fashion.

"The genius of this board lies in its purpose and ability to assemble all the facts in individual cases, and to determine upon a wise, far-reaching course of action in conformity with these facts.

"As all the world knows, through the public prints, the board is in possession of large funds to be used for the improvement rather than the standardization of medical education in the United States. The situation presents an immense responsibility as well as an immense opportunity. It is safe to say that the board will not neglect medical education in the Southern states, as it has not neglected these states in any of the field of its activity in the past, but will give to that region its most thoughful and sympathetic consideration and investigation.

"It is safe, too, to predict that its conclusions will be based on permanent and fundamental considerations and that the ground it undertakes to cover will be thoroughly gone over and thoroughly understood in its relation to the states concerned and the nation at large.

"It is my belief that nothing will be gained but probably something lost by quick action or hasty alignment of our schools in so-called lists of "eligibles" for endownment, or by swift interpretation of the principles which it is assumed will govern the action of the board. The supreme matter at issue is the improvement of medical education in America and not institutional endowment or distribution of money on regional or state bases.

"I take leave, therefore, in conclusion, to express the judgment that the wisest thing for us to do is to follow the line implied and indicated in the suggested commission, to study our situation with patience, calmness, exactness and justice, and then to make up the case in accordance with the facts for the consideration of understanding and impartial men with a great duty to perform and a great service to render."

The Routine Wassermann.

The collection of accurate statistics in regard to the prevalence of syphilis is such an important matter in venereal disease control that every effort should be made to accumulate such data.

The making of routine Wassermann reactions upon patients admitted to general hospitals is a practical way of obtaining authentic information. Considering the necessity and importance of data in regard to the prevalence of syphilis, hospitals are justified in making the Wassermann test as much of a routine procedure as other blood examinations, unless there is some specific contraindication.

It may not be practicable to require that all apparently healthy children admitted to hospitals for minor corrective operations undergo the test; but with these and like exceptions, and excepting in cases of acute illness when the procedure would be detrimental to the patient, the making of a routine Wassermann test is a desirable measure.

E. T. Burke, M. D., Ch. B., advocating what he terms a "venereal offensive" in an article in the London Lancet, makes the following suggestion in regard to venereal control measures in England:

"To estimate the strength of the enemy is a necessary preliminary to an assault. The more accurate the estimate, the brighter are the prospects of success. One valuable measure would be the performance of a Wassermann on every patient admitted to hospital.

"At the present day, on account of the prevalence of syphilis, this is an essential routine. It should be as invariable a rule that a Wassermann test should be done as that the urine should be examined. Not the least valuable effect of this would be that the results would furnish us with a more accurate index as to the prevalence of the disease. Were it continued for a period of years, it would indicate whether or not any progress was being made toward eradicating syphilis from the community. The first effect produced where this routine has been adopted has been to cause a feeling of astonishment at the large percentage of positive results. An examination of figures from [a few] American hospitals shows that on an average 19 per cent. of patients admitted, not apparently suffering from syphilis, give a positive result. We can not hope that our experience in England would be in any way different. We would at once discover an immense hospital population suffering from undiagnosed, untreated, and unsuspected syphilis. It is they who recruit the ranks of locomotor ataxia, aneurysm, and general paralysis of the insane; they form the 60,000 annual victims.

"It is more important to do a Wassermann on a patient admitted for a fractured femur than on one suffering from lightning pains and whose knee jerks are gone. As a diagnostic aid or as an indication for treatment it is, in the latter case, practically a waste of time. If in the former case the result is positive, antisyphilitic treatment would have a twofold effect. It would hasten the repair of the fracture, and would, in addition, greatly limit the liability of the patient to be readmitted some years later suffering from the quarternary stage of syphilis. A great use of the Wassermann is to be found in its application to cases where syphilis is unthought of.

"The laboratories for the performance of the test are in practically every hospital. New ones are springing up all over the country. Competent workers are being trained. Here, then, we have ready everything essential to making a practical attack upon commmnal syphilis. When the routine Wassermann is done upon every hospital patient a real and great step will have been taken toward dealing with what is undoubtedly the largest and most vital problem in public health work today." (*Public Health Reports*, Dec. 12, 1919).

Book Announcements and Reviews

The Monthly will be glad to receive new publications for acknowledgment in these columns, though it recognizes no obligation to review them all. As space permits we will aim to review those publications which would seem to require more than passing notice.

The Medical Clinics of North America. Chicago Number. Vol. 3, Number 1. 277 pages. **New York Number.** Vol. 3, Number 2. 270 pages. Published bi-monthly (six numbers a year) by W. B. Saunders Company, Philadelphia and London. Paper. Price per year $10.

Both of these numbers of Volume 3 are illustrated and contain articles on a large variety of subjects. They are reports of clinics held in various hospitals by prominent specialists in the respective cities, and furnish much instructive and interesting reading. The set of clinics for the year would be a valuable addition to any doctor's library.

The Physician's Visiting List for 1920. (Lindsay and Blakiston's). P. Blakiston's Son & Co., Publishers, Philadelphia. Prices, $1.75 to $3.25 accordng to size and style.

Sixty-nine years ago the first edition of this list was published and it still remains in favor for the general practitioner, as it has kept abreast of the changes in science and medicine during all these years.

The regular editions are made up in sizes for 25, 50, 75 and 100 patients weekly, in one or two volumes according to number. The perpetual edition is for 25 to 50 patients weekly. A dose list (U. S. P.), several tables, etc., add to the value of the book. Illustrated circular and specimen pages free upon request of publisher.

Virginia Medical Monthly

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Editorial.

That Pink Bill!

Attention is again called to the little pink slip found in this number of the journal. Please send in your check of $4.00 to the Secretary-Treasurer. This will greatly help the financial situation.

Councillors, Attention!

The Secretary-Treasurer, Mr. G. H. Winfrey, is ready to serve you and your constituency. Write him and make suggestions to him as to how he may help you in advancing medical organization in the counties in your district.

Mr. Winfrey will prepare for you a list of doctors in your district. He will visit with you any group of physicians of a county looking toward better and more active organization. He will write to them for you. He will help you to bring your district to a better state of organization.

Publication Of This Issue

Has been greatly retarded by the city's inadequate gas supply. Our printers inform us that much of the time since the first of the year, they have not had sufficient gas supply to heat th metal pot for the linotype machine.

Benzyl Benzoate.

Every physician is interested in new pharmacologic studies of drugs. Advance in this field, based upon scientific investigation, improves the position of the physician and lessens his dependence upon those drugs which have been empirically employed. No drug, probably, holds a stronger place in the armamentarium of the physician than opium and so any study of it and its alkaloids at once justly attracts attention, especially so in the light of new work which shows that opium alkaloids can be divided into two classes. The first class is represented by morphine (the pyridin-phenanthrene group); the second class is represented by papaverin (the benzyl-isoquinolen group). The action of morphine on smooth muscle is to stimulate contractions and increase tonus; the action of papaverin alkaloids is to inhibit contractions and tonicity. It has been long known that opium is more efficient in relieving gallstone colic and uterine pain than is morphine, when administered alone. Taking up this line of investigation, Macht has studied simple non-alkaloidal and non-narcotic compounds containing the benzyl radical and he found esters benzyl benzoate and benzyl acetate. As the benzyl acetate is disagreeable on account of its fruity taste the benzyl benzoate was used clinically in order to study its action upon the smooth muscle. He found that it relieved the excessive peristalsis in diarrhea and dysentery; intestinal colic and enterospasm; pylorospasm; spastic constipation: biliary colic; urethral or renal colic; vesicle spasm; uterine colic; arterial spasm; bronchial spasm.

Its action in cases of arterial spasm, showing a high blood pressure reading, was particularly noteworthy. It was found that the administration of benzyl benzoate by mouth markedly lowered blood pressure, both systolic and diastolic, lasting in its effect for a longer time than the nitrite. Even patients who failed to respond to nitrites, responded with a falling of the blood pressure after oral use of benzyl benzoate. If this observation is confirmed by an extended use of this derivative of opium, high blood pressure with cerebral and cardiac symptoms, resulting from arterial spasm, may be more easily managed. The same is true of it in spasmodic asthma. It is encouraging to feel that one may use an antispasmodic non-narcotic in this distressing condition with some assurance that the patient will be relieved of the difficult breathing and at the same time not be menaced with the danger of becoming dependent upon a narcotic drug. The dose of a 20 per cent alcoholic solution, flavored suitably, is from 10 to 20 drops in cold water. The writer merely wishes to add a personal word in favor of this drug, having used it in small

series of cases of spasmodic asthma with satisfaction.

President Barker's Address at the Southern Medical.

"The Wider Influence of the Physician" was the subject of a notable address made by Dr. Llewellys F. Barker, at the recent meeting of the Southern Medical Association. Virginia physicians have found interest in reading the scientific writings from the pen of Dr. Barker. No man has exceeded him in the faculty of arranging and presenting scientific data and evidence in his published work; no man has surpassed him in the art of corraling from the world's literature the known work upon subjects of internal medicine. But it was an occasion for a new admiration of him to read his address in the rather new field in which the physician and social organism, human desires and social forces, physician and public health, the physician's influence and economic situation, the physician's influence and social adjustments, the physician's influence and the discussion of truth and the diffusion of knowledge, the physician's influence and the appreciation of beauty, and the physician's influence in relation to standards of conduct and regulation of behavior, were topics dealt with, covering a wide range of literature and references.

Virginia doctors may well follow his thought on education when he says, "The physician forms, too, as a rule, a true estimate of the nature and value of education. He believes it to be the duty of the adults of each generation to readjust the form and content of education in order that the development of the coming generation shall be shaped according with the best ideals of life. He knows that the average thought of a community is always below its best thought and that it is incumbent upon those who have had unusual opportunities for acquiring and enjoying knowledge to do their utmost to heighten the standards and ideals of research and education in the communities in which they live."

Through the public school system, colleges and universities, libraries, lectures and the press, the new generation of our State must look for advancement in knowledge to meet the demands of the new age now moving in upon us. Physicians, trained and educated, resident throughout the State, in country places, towns and cities, may well turn somewhat aside from the direct work of healing to take a real, personal, working interest in the conduct of the schools and the cultural activities of the communities in which they labor. How can they better serve the cause of education than by giving thought and service upon the local school board?

It was interesting to observe Dr. Barker's comment upon the physician's influence and the appreciation of beauty. As a human quality, the beautiful has a real place in life. As civilization advances, the beautiful becomes more and more a prominent attribute of life. The physician can find no better realm for fostering the beautiful than in the body and form of men, women and children. Seated in an automobile on an afternoon during the period just before Christmas, when crowds thronged the shopping district of a busy city, when the populace were hastily bent upon making purchases for Christmas, one was struck with the lack of beauty of form in the individuals of the passing throng. The varieties of deformities among the crowd were great. The crippled, underweight, fat and deformed were many: but few were well set up and normal. The physician must stand for beauty of form in body, for beauty means proper development, proper muscle in order to get proper metabolism, properly placed and functioning organs in order to get proper digestion and elimination, properly set up body in order to get mental efficiency and service. Barker well says, "Persons who are deformed, scrawny, obese, anemic, cachectic, or otherwise unhealthy; human movements, human speech, and human manners that lack grace, dignity and beauty; 'gingerbread' architecture; ugly furniture: abominations in plaster and stone; cheap chromos in gilt frames: more and sensational literature and plays: hideous factories and warehouses; dirty and unkempt streets; salacious costumes and horrible slums — these are evidences of the lack of that all-pervading love of beauty in life and its surroundings that would go far to prevent them. The physician, therefore, recognizing the significance of art for the totality of life, will use his influence to quicken the love of the beautiful, to make man and his environment more attractive, to get rid of the sordid, the squalid, the sensational, the purely material and the gross."

Let the physicians of Virginia in their

sphere of action and life stand for and champion the things in the life of their people that beget the charm and the elegance of the beautiful. In the newborn babe, let beauty of form and freedom from deformity be in mind; in the growing youth and maiden, let him advocate the measure of feeding and training the body and the early correction of deformities in and eradication of lurking diseases; in the adult and mature, let him stand for measures that make for robust and healthful bodies.

Let him plead and work for clean streets in towns and hamlets; for proper drainage; for adequate protection from dust and mud. Let him foster the neat, clean and attractively kept home and premises with bright and attractive appointments, where freshness, and sunshine and health may be found. These are the beautiful things which the practical doctor of country, village, town and city of Virginia may well champion.

The Doctor and Physical Culture.

Modern and thoughtful physicians are getting away from the idea that the province of the doctor is alone in dealing with the complaints and diseases of man. Another and more useful field is open to him; not that the limitless possibilities of investigation into the unknown problem of diseases are less pressing, but, that this particular avenue of new effort is so apparent and so full of immediate success and reward. Also, in the pursuit of this, the disease problems are all somewhat mastered through the effective operation of adequate physical fitness. This does not follow in experience in every instance, but, it does follow in the general application of resistance against disease and recovery from disease.

Doctors have a distinct duty to discharge in the growth and development of children and youth. No school board is properly formed that fails to possess the advantage of the knowledge and advice of a physician who is interested in and who is informed upon the rudiments of physical fitness and physical development of boys and girls. There is so much for the doctors of this state to do in this public matter that it alone appalls one as the opportunity is contemplated. What good may not be done if, in every county in the state of Virginia under the guidance and direction of the school board, an intelligent physical survey were to be made of the physical defects of the school children, taking into consideration a few questions such as: (1) malnutrition and under-growth; (2) oral hygiene and infections; (3) cardiac and pulmonary disease; (4) mental stigmata. What a world of good could be done if in every school house in this state such a survey were to be made and steps taken following the discovery of the conditions, to bring the growth to normal, to remove diseased oral conditions, to guide children with heart disease and tubercular children to stronger and healthier states, and to correct mental defectives!

Physical culture of children in schools has to do not only with the food given to them and with the diseases that affect them, but also with the amount and character of the exercises they follow. In this phase of youth-life, the doctor is extremely helpful. A large number of the schools are letting the great opportunity go unimproved. A careful systematic training of the muscular system is important for our youth while at school. The body may be well fed, but on that alone growth and development of the body will not be secured. One can not hope to make a physically perfect race horse by merely feeding the animal; the muscles of the body must be used and exercised systematically.

Every school day should have a period for this. Surprisingly little systematic and regular exercise is needed to give that needed stimulus to general uniform physical development. During the war no more astonishing fact was brought out in this connection than the extremely short time, relatively speaking, that was required to train a lean, flat chested in-door city boy into comparative robustness and physical fitness. It hardly seemed possible that the underweight, underdeveloped boys that went to the training camps were the same well rounded, and developed soldiers who a few months later were going to France. It does not consume a great deal of time to systematically and intelligently train and develop the subnormal body into a normal body.

Fourteen Points in Physical Culture.*

1. Ventilate every room you occupy.
2. Wear light porous and loose clothes.
3. Sleep in open air if possible.
4. Breathe deeply.
5. Avoid over-eating and over-weight.
6. Eat sparingly of meat.

7. Eat some rough, some bulky food.
8. Eat slowly.
9. Evacuate the intestines at regular times daily.
10. Stand, sit and walk in an erect manner.
11. Keep teeth and mouth clean.
12. Systematically and regularly exercise the muscles of arms, legs and body each day.
13. Don't worry.
14. Fight bacterial infection in its initial stage.

See "How to Live."

"Colds in the Head" and "Sore Throat."

The vestibule of the respiratory tract, with its accessory and auxiliary chambers, in man, is, indeed, at this season of the year, commonly and frequently attacked by noxious bacterial life. These noxious vegetable microscopic organisms kick up serious changes in the tissues and blood vessels of this region. As long as the mucosa of the passages in the nose, and throat and wind-pipe can withstand, to a degree, the invading bacterial life, no serious, but an uncomfortable group of symptoms arise in the nose and throat. But should the organisms, more numerous, more virulent, push bacterial action to deeper and more remote tissues, serious and most dangerous effects result to the human body. The general public, and it may be the profession itself, fails to evaluate the significance of the common "cold in the head" and the ordinary "sore throat." While these maladies may be of simple and temporary importance, the complications and consequences lead to the fatal group of diseases which make heaviest toll upon human life. And so it may be said that, as the great achievement of building the Panama Canal was made possible by attention to the simple and minute items of controlling the breeding places of the yellow-fever germ-bearer, so it is possible to abort and control the terrific diseases of the respiratory tract by care and attention to the initial invasion in the upper air passages where irrigation and direct treatment are possible.

No better clinical illustration of the value of prompt treatment by early placing the body in bed to prevent new infections and to command the forces of resistance to the best advantage can be offered than that of the epidemic of influenza in the fall of 1918. It was shown in this epidemic beyond question that the successful treatment in the epidemic was the local treatment when the disease was only in the nasal passages.

The streptococcus groups and the pneumococcus groups, alone or combined, at work upon the tissues of the lower respiratory tract prove indeed too much for man.

Let the profession impress patients and the public that care of infected persons and the early treatment of the common head colds and sore throats mean much less of mastoiditis, sinusitis, tonsillitis (with its secondaries in joints, heart, lungs, kidneys, blood vessels) pneumonitis and pleuritis (empyema).

All Honor to the Country Doctor.

At this season of the year the physician in the country suffers many hardships. Scott, in "The Surgeon's Daughter," opens with a description of Doctor Gideon Gray, "and many other village doctors, from whom Scotland reaps more benefit, and to whom she is perhaps more ungrateful than to any other class of men, excepting her schoolmasters."

"A rural man of medicine is usually the inhabitant of some pretty borough or village which forms the central point of his practice. . . . . For late and dangerous journeys through an inaccessible country, for services of the most essential kind, rendered at the expense or risk, at least, of his own health and life, the Scottish village doctor receives at best a very moderate recompense. . . He mounts at mid-night, and traverses in darkness paths which, to those less accustomed to them, seem formidable in daylight, through straits where the slightest aberration would plunge him into morass or throw him over a precipice. . . . When he arrives at such a stately termination of his journey, where his services are required to bring a wretch into the world or prevent one from leaving it, the scene of misery is often such that far from touching the hard-saved shillings which are gratefully offered him, he bestows his medicine as well as his attendance —for charity."

All through the rural sections of Virginia, and let it be said, also, in the towns and cities of this state, there are many Gideon Grays. Every town and country settlement has its true physicians who, "when fainting nature call'd for aid and hovering death prepared the blow," have ungrudgingly given of their skill and of their body. During this winter season

when the conditions of transportation are difficult on account of poor roads, these men of medicine are having much to try them and are having many obstacles to overcome as they seek to relieve human suffering and misery.

All honor to the Country Doctor!

Dr. Osler is Dead.

Dr. William Osler, who was knighted by the King of England and thus became Sir William Osler, died of bronchical pneumonia at his home in Oxford, England, December 29, and upon completion of the funeral services, his body was cremated. He had reached the age of 70, ten years above the age at which he stated a man should be chloroformed for want of efficiency. In his later years, however, he modified his own views with regard to this opinion.

Dr. Osler was a native of Canada, in which country he received his early education, later studying medicine at McGill University, Montreal, from which he graduated. He then studied abroad. Dr. Osler had many positions of honor in both Canada and the United States before accepting a professorship at Johns Hopkins University, Baltimore, where he labored from 1889 to 1904, and perhaps accomplished his most brilliant work. During this time he made many contributions to medical science and he became well known in all of the medical schools of this country. From this post, he went to Oxford, England, to become professor of medicine in Oxford University, and continued to reap honors in that country to the time of his death.

At the time of the funeral services in Oxford, impressive services were also conducted at St. Paul's Protestant Episcopal Church in Baltimore, in honor of Dr. Osler. A notable gathering of friends and admirers attended.

The Southwest Virginia Medical Society

Was reorganized at a meeting held in Pulaski, Va., early in December, there having been a lapse in the meetings for some time, owing to the war. The reorganization was effected under the laws of the Medical Society of Virginia and of the American Medical Association. The counties included in this Society are Pulaski, Montgomery, Wythe, Smyth and Washington. Members of the profession from counties contiguous to those included and the cities of Roanoke and Bristol are eligible as associate members. Semi-annual meetings will be held as in the past, the date and place of meeting to be determined by the executive committee.

Officers elected were Dr. W. R. Cushing, Dublin, president; Dr. J. A. Noblin, Radford, vice-president; Dr. A. B. Greiner, Rural Retreat, secretary-treasurer. The executive committee is composed of Drs. Francis Smith, Abingdon; W. W. Chaffin, Pulaski, and S. S. Gale, Roanoke.

The Seaboard Medical Association

Of Virginia and North Carolina held its twenty-fourth annual meeting in Norfolk, Va., December 2-4, under the presidency of Dr. W. L. Harris, Norfolk. Elizabeth City, N. C., was selected as the 1920 place of meeting, and the following officers were elected: President, Dr. Cyrus Thompson, Jacksonville, N. C.; vice-presidents, Drs. E. C. S. Taliaferro, Norfolk; Zenas Fearing, Elizabeth City, N. C.; Thos. B. Luxford, Princess Anne, Va., and Stuart M. Mann, Moyock, N. C.; secretary, Dr. Clarence Porter Jones, Newport News, Va., and treasurer, Dr. Geo. A. Caton, Newbern, N. C., both of the latter being re-elected.

The Tri-State Medical Association of the Carolina and Virginia

Will hold its annual meeting February 18 and 19 in Charlotte, N. C., instead of Winston-Salem, as at first planned. As a large attendance is expected, it was deemed wise to make the change in place of meeting owing to restricted hotel accommodations in Winston-Salem. A large number of excellent papers are promised and an attractive meeting is anticipated. Dr. Robt. C. Bryan, Richmond, is president, and Dr. Rolfe E. Hughes, Laurens, S. C., secretary-treasurer.

Richmond Has Only Exclusive General Negro Hospital in United States.

During the meeting of the General Assembly this year an appropriation of $40,000 will be asked by the Medical College of Virginia for use in completing the equipment for the colored hospital, at Twelfth and Marshall streets, Richmond, which has been under the course of construction for almost three years. The building, seven stories in height, fireproof, and one of the most modern in Richmond, will, when completed, be the only exclusive general negro hospital in the United States.

Constructed with an eye to every detail

known to make for efficient hospital facilities, the new hospital is expected to be the center of medical treatment for the colored race in Virginia and throughout the South. The hospital will be operated under the direction of the Medical College of Virginia, and as an adjunct to Memorial Hospital.

As the institution now stands, it could be opened immediately, except for the lack of funds with which to equip it with beds and other facilities. The building proper is completed, and the heating system, water and elevator arrangements installed, as well as the most complete sterilizing equipment in the South. The State will be asked to appropriate the necessary money for putting the institution in immediate operation, as already there is a daily appeal from physicians urging opening of the hospital.

Several unusual features are being worked out in connection with the hospital, aside from the purely medical treatment which will be given there. Colored nurses will be trained under the direction of white graduates. These nurses will also be given courses in social service work in order that they may instruct negro patients to better their home conditions.

From among these nurses will be chosen colored women particularly adapted to social service work, and they will be given further training along these lines, and be sent out to work among the colored population, not only of Richmond, but eventually throughout the entire State.

By this means it is hoped to solve many of the race problems, particularly those pertaining to health.

From the seventh floor of the new building, on which two operating rooms are located, to the basement, where the complete kitchen is situated, every detail which has been found best for medical treatment, has been arranged. There are children's wards, private rooms, and wards for obstetrical patients, special bathing apparatus for babies and children, and scores of other features of recent invention.

This new hospital will be under the direction of the State, through its operation by the Medical College of Virginia which is a State institution. It will be under the management of Memorial Hospital, and the medical staff of Memorial Hospital will serve as the medical staff for the negro hospital.

This staff comprises the faculty of the Medical College of Virginia, comprising some of the most eminent specialists in the South. Many of these surgeons and physicians are serving on the college faculty without pay, and the others at low salaries, and are subject to call at any time to give treatment at the hospitals.

Colored patients will be under the care of these physicians. Charity patients, as well as those who may pay, will be cared for at the institution, and it is planned to make the hospital self-sustaining within a short while.

The negro hospital has been erected at a cost of less than $200,000, the majority of the money having been subscribed in Richmond, without cost to the State, although the institution becomes a part of the State's assets. Between 200 and 300 patients can be comfortably cared for in the hospital.

The American Society for the Control of Cancer,

At its annual meeting, elected Dr. Charles A. Powers, of Denver, Col., president, to succeed Dr. George C. Clark, deceased. Mr. Frank J. Osborne was elected executive secretary, succeeding Mr. Curtis E. Lakeman, who has gone to Geneva.

Dr. Crile Endows Chair of Surgery.

Dr. George W. Crile, of the surgical staff of the school of Medicine, Western Reserve University, Cleveland, has given $100,000 to endow a chair of surgery in that school.

Dysentery or Intestinal Influenza.

A disease which may be referred to by either of the above names, is occurring in epidemic form in a number of places in Oklahoma and Kansas, and in Kansas City, Mo. It is especially prevalent among children. To this time there have been only four fatalities—all at Skiatook, Okla., the little town where it first became prevalent. Conferences of physicians have been held in Topeka and Muskogee, with an idea of identifying the disease and employing means to check its spread. Some of the doctors thought it to be a form of dysentery, while others were of opinion that it was a gastric form of influenza.

Richmond Doctors Among Bank Directors.

At the annual meeting of the Richmond banks, the following doctors were elected members of the boards of directors: Dr. Stuart McGuire in the Savings Bank of Richmond; Dr. J. Shelton Horsley in the Federal Trust Company; Dr. R. D. Garcin in the Bank of Commerce and Trusts and in the Church Hill Bank; and Dr. J. G. Loving in the South Richmond Bank.

Dr. W. W. Chaffin,

Pulaski, Va., who has been confined to his home by sickness for sometime, has gone to Johns Hopkins Hospital, Baltimore, for treatment.

Dr. Alvin F. Bagby,

Formerly of Petersburg, Va., but now of New York, spent part of the holidays with his brother, Dr. B. B. Bagby, in West Point, Va.

Dr. Carrie Chase Davis,

Formerly of this State, but who has recently been located in Amityville, N. Y., has returned to Hopewell, Va.

Dr. William R. Weisiger

Has returned to New York, after spending the Christmas holidays with his sister in this city. Dr. Weisiger formerly practised in Richmond but went to New York City last July to specialize in diseases of the eye, ear, nose and throat.

In a recent competitive examination at the Manhattan Eye, Ear and Throat Hospital, Dr. Weisiger received an appointment on the house staff of that institution and will on April 1, 1920, enter upon his service which covers a period of two and a half years. Upon the completion of this service, he expects to resume practice in Richmond.

Dr. Mary Johnson,

Of Boston, Mass., resident physician at the Virginia Home and Industrial School for Girls, at Bon Air, Va., has been appointed temporary successor to Miss Anna Peterson, who has resigned as superintendent to accept a position in Connecticut.

The Southern Surgical Association,

Recently meeting in New Orleans, selected Hot Springs, Va., as their 1920 place of meeting and elected Dr. Willard Bartlett, of St. Louis, as president.

Neuro-Surgical Unit Established in Richmond.

P. A. Surgeon John L. Moore, supervisor of the State of Virginia for the U. S. Public Health Service, announces that Richmond has been selected as the place in the fourth district in which to establish a neuro-surgical unit. This district embraces Virginia, Maryland, District of Columbia and West Virginia. This unit is to treat and care for veterans of the world war who are suffering from diseases or injuries of the brain, spinal cord and nerves.

Arrangements have been made to give the hospital treatments at Memorial Hospital, this city, and at the Retreat for the Sick, if accommodations at the former are inadequate, and modern apparatus and equipment will be installed for this purpose.

The personnel of the neuro-surgical unit is: Drs. C. C. Coleman, Paul V. Anderson, and John H. Baird, all of Richmond. Dr. William F. Mercer, of this city, will have charge of all cases requiring the services of a specialist in diseases of the eye, ear, nose and throat. Asst. Surgeon C. T. Wilfong, of the U. S. Public Health Service, will treat all office cases who have been discharged from hospitals. All cases sent to the hospitals in Richmond will be under the direction and care of Dr. William R. Jones, of Richmond, acting assistant and consulting surgeon.

Typhus Fever in Madrid.

Madrid, Spain, has been experiencing a small epidemic of typhus fever. The latter part of December, the civil hospital was full of cases and a camp had been established on the grounds of the San Juan nospital.

Dr. A. H. Deekens,

Who has recently returned from service with the Medical Corps of the U. S. Army, has located at 4110 Forest Hill Avenue, and will take up the practice of his profession in this city. At the time of entering the service, Dr. Deekens was located in Lynchburg, Va.

Dr. W. A. Brumfield,

Of the State Health Department, delivered an address before the Richmond Nurses' Club, at their regular monthly meeting, January 8.

Dr. R. S. Spilman,

Of Norfolk, Va., has joined a party of friends on a six months' yachting trip to Florida.

Watts Hospital to be Enlarged.

The board of trustees of the Watts Hospital, in West Durham, N. C., has decided to make an addition to the hospital at an estimated cost of $150,000. This will include private wards

and a home for the employees of the hospital.

Dr. Mary Harley,

Of Sweet Briar College, Amherst County, Va., has been on a visit to friends in Philadelphia.

Dr. May Fleming,

Formerly of Lynchburg, Va., and a graduate of the Medical School of Johns Hopkins University, has just returned to this country from Persia, where she was engaged as a medical missionary during the world war.

Cancer: Facts Which Every Adult Should Know,

Has recently been issued by the U. S. Public Health Service as No. 6 in its "Keep Well" series. This booklet covers the essential facts known to be effective in the control of cancer, and is written in simple, straightforward language. It is designed especially to acquaint lay readers with the early symptoms and seriousness of this, one of the most dreaded of diseases. For copies of the booklet, address Dr. Charles F. Bolduan, Chief of the Section on Public Health Education, U. S. Public Health Service, Washington, D. C.

Dr. Ray Moore,

Phenix, Va., has been appointed as a member of the Executive Council, Medical Society of Virginia, from the Fifth District.

Hookworm Survey Completed In Pittsylvania County.

In a hookworm survey just completed in Pittsylvania County, Va., Dr. William P. Caton, of the State Board of Health, examined 1,200 school children, with the result that 10 per cent. were found to be infected. In one school the rate of infection was as high as 43 per cent., while two schools were found free of infection.

Dr. Virgil E. Stiff,

Until recently of Switchback, W. Va., is now located at Robson, Fayette County, W. Va.

Dr. Virgil H. Carson,

Of Norfolk, spent the Christmas holidays with his parents in this city.

Dr. and Mrs. Stephen H. Watts,

University, Va., spent the Christmas holidays with friends in Atlanta, Ga.

Dr. James M. Whitfield

Was on January 5 re-appointed city coroner of Richmond for a period of four years.

Married.

Dr. E. F. Younger, Lynchburg, Va., and Miss Bessie Mason, of Campbell County, Va., in Washington, December 15.

Dr. Harry Emmick Lee, Detroit, Mich., and Miss Jamie Florence Greenlee, Studley, Va., December 31. Dr. Lee was formerly of Studley and was a graduate of the Medical College of Virginia in the class of '15.

Dr. John Randolph Travis, of New London, Va., and Miss Edith Hutt Marshall, of King George County, Va., December 6.

Dr. Henry Lee Sloan, Charlotte, N. C., and Miss Emily Patterson Elliott, Linden, N. C., December 3.

Dr. Thomas W. Edmunds, Danville, Va., and Mrs. Sallie Davis Penn, Reidsville, N. C., in Baltimore, December 20.

Dr. Harry S. Berman, Detroit, Mich., of the '14 class, College Physicians and Surgeons, Baltimore, and Miss Caroline Block, Richmond, December 23.

Dr. Charles Lyndon Outland, Tarboro, N. C., and Miss Alice Louise Sadler, Richmond, January 21. Dr. Outland was a member of the '17 class, Medical College of Virginia.

Gone to South America.

Drs. William J. Mayo, Rochester, Minn., and Franklin H. Martin, Chicago, left on the 7th of this month for a trip to Argentine Republic and other South American countries.

The Guilford County (N. C.) Medical Society,

At its annual meeting in December, elected Drs. Chas. W. Banner and Frederick J. Pate, both of Greensboro, president and secretary-treasurer, respectively.

Yellow Fever To Be Eradicated.

Dr. T. C. Lyster, chairman of the Yellow Fever Commission which went to Ecuador and Peru in 1918, made the assertion, upon his arrival in this country last month, that yellow fever will be wiped off the earth within five years. He stated further that it had already been eradicated from Central America, although it raged in Southern Mexico and portions of Brazil. Dr. Noguchi, the Japanese physician and scientist connected with the Commission, working under the Rockefeller

Foundation, is working on a serum to combat yellow fever. This has already been used with excellent effect in a few cases.

Central State Hospital.

The annual report of Dr. W. F. Drewry, superintendent of the Central State Hospital, Petersburg, Va., showed a progressive trend in the care and treatment of the insane. The report showed 1,813 patients in the hospital at the end of the year, 813 of whom were females. There were 582 patients admitted during the year, and 579 were either discharged or died. Various improvements were made at the hospital during the year, and others are contemplated.

Cabarrus Sanatorium

Is to be the name of a new hospital shortly to be erected in Concord, N. C., at an estimated cost of $60,000.

Richmond Doctors Near the Top.

The statistical bureau of the U. S. Department of Labor, by an examination of the expenditures of 153 average families of six to the family, has compiled some interesting figures. With the exception of Salt Lake City, Charlotte, N. C., and Seattle, Richmond doctors claimed a larger sum from the average family during last year than any of the thirty cities listed, or $37.44 per family. It was further shown that the average Richmond family last year paid out not less than $17.57 for medicine, $5.76 for dentists' bills, $2.38 for hospital expenses, $3.69 for nurses, and $1.22 for eyeglasses.

Are Richmond people striving harder for health than residents of other cities, or are they more considerate in paying their doctors' bills?

Dr. Thomas Retires.

After thirty-one years of practice, Dr. I. H. Thomas, of Aldie, Va., has retired on account of ill health, and has sold his practice to Dr. Charles A. Goettling, of Middleburg.

Dr. James H. Smoot,

Woodstock, Va., has been elected president of the Shenandoah County Agricultural Society, for the ensuing year.

Dr. S. P. Conduff,

Of Draper, Va., was elected president of the Board of Directors of the Bank of Draper, at their annual meeting last month.

Influenza Epidemic in Japan.

It is announced through the Associated Press that influenza is spreading throughout Japan. One million cases have been reported, and of those stricken, 12,000 are soldiers.

Dr. Meade S. Brent,

Of Petersburg, Va., spent the Christmas holidays at his old home in Heathsville, Va.

Dr. Carlisle L. Nottingham,

Having completed a post-graduate course in Baltimore, has again taken up the practice of his profession in Cape Charles, Va.

Free Tuberculosis Clinics Held in Richmond.

During January, tuberculosis clinics are being conducted in this city under the direction of the Richmond Anti-Tuberculosis Association. Suspects may be examined free. Examining physicians are Drs. D. B. Cole, N. T. Ennett, P. D. Lipscomb, and J. Garnett Nelson.

Conference of State Health Workers.

A well attended conference of health officers and workers from many sections of the State was held in Richmond, from December 29 through January 3. Addresses were made by health officials and experts active in both State and national organizations. The success of the meeting was such that it was virtually decided to make these conferences annual events and to hold them the week after Christmas.

Among the many interesting papers was one by Dr. Dean B. Cole, director and executive secretary of the Virginia Tuberculosis Association. He stated that Virginia has at present more than 20,000 active cases of tuberculosis out of the 1,000,000 in the United States, and this disease alone causes more than 4,000 deaths annually in Virginia. The need for more beds in the State sanatoria for the treatment of tuberculosis patients was emphasized.

Women To Be Admitted At University of Virginia.

By a vote of 7 to 2, the Board of Visitors of the University of Virginia, at a meeting on January 12, passed a resolution which admits mature and qualified women to graduate and professional schools of the University of Virginia. The rule will become operative at the opening of the new term next September.

Dr. Charles V. Carrington,

Of this city, who in the fall underwent an operation at a local hospital and later paid a visit of some length in Atlantic City, has entirely recovered and resumed his practice.

Dr. W. Armistead Gills, U. S. N.,

Stationed at Newport, R. I., spent the Christmas holidays with his mother in this city.

Campaign for Hospital In Bristol.

An organization has been formed in Bristol, Va., for the purpose of launching a campaign for building a hospital there. Mr. E. W. King, president of the First National Bank, Bristol, has been elected president of the organization, which is known as the King's Memorial Hospital Association.

Reinstate War Risk Insurance.

Bulletins issued by the Government announce that ex-service men may reinstate their insurance within 18 months after the month of discharge from service, and that new and more liberal benefits for ex-service men and their relatives and beneficiaries became effective December 24, 1919.

For full information, write Insurance Division, Bureau of War Risk Insurance, Washington, D. C.

Dr. and Mrs. R. C. Bryan

And children, of this city, spent the holidays with relatives in Maryland.

Addition to Stuart Circle Hospital.

Ground has been broken for an addition to Stuart Circle Hospital, this city. The new wing will be a continuation of the present building and in the same architectural design. It will be 42x60 feet, six stories high and fireproof in construction. The cost will be approximately $132,000.

Government Positions In Occupational Therapy.

The U. S. Civil Service Commission announces examinations for field supervisor of reconstruction aides, and superintendent of aides in occupational therapy, special instructor in occupational therapy, and reconstruction aides.

For information and application blanks apply to the representative of the Commission at the post office or customhouse in any important city, or to the U. S. Civil Service Commission, Washington, D. C.

Wanted—At once, an assistant. Comfortable home, with electric lights and bath; fair salary. Address Dr. B. R. Hudnall, Low Moor, Va.—(Adv.)

Stammering Cured.

Seventy of eighty children treated for stammering were declared cured at the close of the first course for stammerers recently conducted by the Extension Department of the Board of Education in Buffalo, N. Y.

Obituary Record.

Dr. Charles F. Updike

Died of diabetes at his home in Browntown, Va., October 14, aged fifty-five years. He studied medicine at the University of Maryland, from which he graduated in 1889. Dr. Updike was a member of his local medical society and had been a member of the Medical Society of Virginia since 1896. During the war he had the rank of captain in the Medical Reserve Corps.

Dr. William Gwathmey

Died at his home in Beulahville, Va., January 5, after a brief illness. His wife and three children survive him. Dr. Gwathmey was about forty years of age, and received his medical education at the Medical College of Virginia, from which he graduated in 1898. He was one of the most popular citizens of King William County.

Dr. Robert Lee Randolph,

Associate professor of clinical ophthalmology and otology in the Medical School of Johns Hopkins University since 1901, died at his home in Baltimore, December 11. Although a native of Fredericksburg, Va., he had spent most of his life in Baltimore. He was a graduate in medicine of the University of Maryland in 1884 and later studied in Vienna.

Dr. James E. Vaughan,

For many years a practising physician of Lynchburg, Va., died in that city, December 18, after an illness of several years. He was sixty years of age and a native of Grayson County, Virginia. Dr. Vaughan studied medicine at the Lincoln Memorial University, Knoxville, Tenn., from which he graduated in 1893. Shortly thereafter he moved to Lynchburg, where he had since made his home.

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Original Communications.

THE RELATION OF ETIOLOGY TO THE TREATMENT OF PELVIC INFLAMMATION.*

By CHARLES R. ROBINS, M. D., Richmond, Va.
Professor of Gynecology, Medical College of Virginia; Surgeon, Stuart Circle Hospital; etc.

Pelvic inflammation is one of the most common ailments affecting women, and its treatment is therefore of the greatest importance. If we seek the bacterial cause, it will be found that all of the pus forming varieties may be found. The most common are staphylococci, streptococci, colon bacilli, pneumococci and gonococci. Tuberculosis is a not infrequent infection of the pelvic organs, but this does not properly come within the scope of this paper. We also occasionally find pelvic inflammation secondary to other inflammatory conditions in the abdomen, particularly appendicitis, but this is a complication and not a primary infection.

The types of inflammation to which we refer are those that have their origin in the genital tract. As a rule, they are all ascending and commence in the lower tract, but in manipulations during confinement or induced abortion, the germs may be deposited directly in the uterus by the use of unsterile instruments or improperly sterilized hands. The colon bacillus is a very common form of infection and is due to the introduction of discharges from the rectum into the genital tract. A study of cases of pelvic infection will usually reveal that the infection followed an abortion or a labor at term, or it was due to gonorrhea. Some cases are due to instrumentation of the uterus but these are not frequently seen at the present time. The genital tract immediately after a labor or an abortion affords an unusually good field for development of an infection. There is, in the first place, a raw surface where the placenta and membranes were attached, frequently there has been a considerable amount of manipulation or instrumentation, and there are the discharges from the uterus consisting of blood and possibly some portion of the placenta or membrane left behind, which make an excellent culture medium and are easily infected. We have in addition to this the fact of the stress and strain and confusion incident to parturition. The case is started out in excellent shape but the exigencies of the case will often cause the doctor to disregard his own rules and make use of unsterile material or use unsterile procedures. It is possibly due to this cause that we still have infection following labor and abortion although we know so much about their cause. Any of the germs mentioned may be introduced in this manner, and it is sometimes difficult to tell exactly which germs are concerned. They have, however, more or less the same symptomatology and may for practical purposes be grouped under the general phrase, infections following abortion or labor at term.

In the case of the gonococcus, however, we are dealing with a very different type of infection. This almost invariably starts as a vulvitis, but one of the most striking characteristics of gonorrhea is its tendency to ascend and in a period of a few weeks to several months, the tubes may become involved. We, therefore, for practical purposes can divide pelvic inflammation into two distinct groups, one due to the gonococcus alone and the other due to the infections following abortion or labor at term. This division is, as a rule, very sharp, and the symptoms and treatment are entirely dependent on with which one of these groups we are dealing. In the case of gonorrhea, it sometimes happens that this infection ascends immediately following abortion or labor, owing to the fact the uterus is particularly open at this time. In this case, however, the disease follows the characteristics of gonorrhea

*Read before the Medical Society of Virginia at its fiftieth annual session, Richmond, Va., October 28-31, 1919.

and the symptomatology is explained by the nature of the infection. In the case of the gonococcus, the inflammation is almost invariably a local one, and there is comparatively little tendency to absorption. We find, therefore, that while a pelvic inflammation due to gonorrhea may be attended with a great deal of pain and disability, we do not often have a great rise in temperature, 100 to 101 degrees being about the maximum, neither do we have any marked acceleration of the pulse, and the blood count is not indicative of a severe form of infection. Notwithstanding this general rule, it is true, of course, that we do have absorption of the gonococcus into the blood at times and this is evidenced by endocarditis, joint infection, etc. These cases are, however, comparatively infrequent when the great number of cases of gonorrhea is taken into account. In infection following abortion or labor at term, however, the clinical picture is entirely different. In these cases the absorption is, as a rule, the predominating picture and we are really dealing with a case of septicæmia. This is noted by chills, high temperature, rapid pulse and a blood count indicating a severe form of infection. Sometimes the infection remains localized in the uterus and sometimes it extends beyond into the tubes and involves the peritoneum or into the pelvic connective tissue. In any case the condition presented is a grave one. It is just in these cases that we are liable to do the wrong thing. The condition of the patient would appear to call for heroic treatment. If, however, an operation is undertaken in this stage, it will be found to be attended by a very high mortality which runs from fifty to seventy-five per cent. The reason for this is not far to seek. We are dealing with septicæmia, due to absorption, and operation does two very bad things, it increases absorption by breaking down the wall of protection and at the same time the resistance of the patient is lowered by prolonged and tedious operation under general anaesthesia. What is indicated in these cases is not operation but a method of treatment designed to diminish absorption and to increase the patient's resistance and particularly to allow time for the assembling of nature's forces for the resistance of the infection. This is best accomplished by the line of treatment commonly used for peritonitis, and consists of absolute rest in bed in the elevated position, saline by rectum, ice bags over the abdomen, withdrawal of food and no purgation. The pelvis is particlarly well situated to prevent spread of inflammation and in ordinary cases and under proper management there is comparatively little danger of general peritonitis. It will surprise any one who has not seen it done to note how quickly in a majority of cases all of the symptoms will subside and the patient enter into a period of convalescence. The only indication for operation at this stage is the formation of an abscess, which can be evacuated by either vaginal puncture or a muscle splitting operation in either iliac fossa, should the abscess be pointing in this direction. By this method the mortality may be reduced from fifty per cent, the operative mortality to about two per cent. In addition to this, study of these cases shows that they often go on to convalescence and make operation unnecessary at any time. The necessity for operation, however, can be taken up later and will depend on the condition of the patient. The management of gonorrheal infection on the other hand, is entirely different. Gonorrhea remains almost invariably a local infection and can safely be operated on at any stage. It is usually best, however, not to operate on these cases in the very early stages because there is a possibility of their undergoing resolution, although this tendency is by no means marked and these cases usually become chronic.

In some cases, however, I have had rather brilliant results from the use of vaccines, where the enlarged tube had melted away without any pathology following. This, however, is not a uniform result, and the good effect can probably only be secured in very recent cases. When we operate in these cases, however, we do not have to fear absorption and it is practically unnecessary ever to drain.

In those cases that have become chronic, the operative treatment is practically the only treatment to be considered, irrespective of the cause of infection. In these cases the infecting organism will usually be found absent, having apparently lived out its life cycle or having been overcome by the resisting forces of the body. In addition to this, the presence of the infection calls forth the latent and particular resistance of the patient to the infection so that operation may be done with comparative safety. This does not, however,

cause and effect are clearly perceived, the introduction may and probably does take place always apply to the streptococcus infection, and cases are occasionally seen which appear to have become quite chronic and which have extended over years but have lighted up on operation and sometimes cause death. As a rule, however, we will find that the observance of the rules mentioned will result in an exceedingly low mortality and rob the treatment of pelvic inflammation of much of its danger.

THE TREATMENT OF BRONCHIAL ASTHMA WITH VACCINES.*

By J. MORRISON HUTCHESON, M. D.,
and
S. W. BUDD, M. D.,
Richmond, Va.

In a previous paper‡ we called attention to a mixed autogenous vaccine, prepared from the sputum, for the treatment of bronchial asthma and reported the results observed in a limited number of cases treated by this method and followed over a period of sixteen months. The effects obtained from the vaccine in these cases seemed sufficiently helpful to warrant advocating its further use as a remedial agent.

Subsequent experience has served to substantiate the views formerly advanced. We have continued to administer this vaccine, with very slight modifications in its preparation, and the effects observed in a larger series of cases and over a longer period of time lead us to rely more confidently than ever upon this remedy. Its employment is to a certain extent empirical and its effect not wholly explained, yet we are convinced that it offers a practical and useful means of relief, applicable in most if not all cases of true bronchial asthma.

During the past few years an abundance of experimental and clinical information has been accumulated in connection with asthma and now serves to place its fundamental etiology clearly beyond question. The conception of the disease as a manifestation of protein sensitization requires no further explanation or argument to establish its soundness. The problem that is most pressing at the present time is that of proper treatment or how the individual sufferer can desensitization best be brought about.

Among recent contributions to the subject of asthma, none are more thorough and comprehensive or more worthy of confidence than those of Walker,† whose studies and conclusions in a large group of cases have indicated and emphasized the enormous possibilities of specific desensitization and there is no doubt that the plan of management advocated by him would, provided it could be followed consistently, constitute the ideal therapy. When the offending protein or proteins can be determined, desensitization may be accomplished in the majority of cases either by preventing contact with these substances or by injecting them in increasing quantities into the circulation.

Unfortunately, the application of this system offers many difficulties and involves an amount of time and expense which is discouraging to the physician and to the patient as well. So elaborate a plan is manifestly beyond the reach of more than comparatively few asthmatics. In the first place the list of proteins already recognized as possible causes of asthma and which are available for testing is extremely long, including as it does a variety of substances contained in foods, bacterial products, animal hair and pollens. It is possible also that this list is far from complete as it has been shown by Walker that but forty-eight per cent of patients tested react to one or more of these substances.§ There are therefore, at present fifty-two per cent of asthmatics not amenable to specific desensitization. Moreover, many patients who do react to the skin tests show a multiple sensitization responding to a group of proteins so varied that specific desensitization is often extremely difficult or impossible. Furthermore, positive skin tests while they may indicate special susceptibility do not necessarily establish the etiology of asthma as they occur frequently in individuals who do not suffer from asthma and therapuetic tests are always required to establish the relationship.

It has been shown that paroxysms of asthma may be induced in a sensitive individual by the introduction into the system of certain amounts of the special protein either by inhalation, ingestion or directly into the circulation. However, in the majority of cases where

*Read before the fiftieth annual session of the Medical Society of Virginia, at Richmond, October 29, 1919.

‡Hutcheson, J. M., and Budd, S. W., Amer. Jour. Med. Sci., June, 1918, No. 6, vol. clv., p. 826.

†Walker, I. C., Boston M. & S. J., 179: 288, 1918.

§Loc. Cit.

by inhalation. Furthermore, in certain asthmatics, the occurrence of seizures identical in character but induced by widely different circumstances rather suggests either that sensitization is not strictly specific or that the offending protein is contained in a variety of substances. For instance, an asthmatic unquestionably susceptible to ragweed pollen suffers during late summer and early autumn, but may also continue to have attacks well into the winter or at other seasons when contact with pollens is impossible. It has also been frequently observed that the cases relieved by vaccines often include those apparently due to substances other than bacteria, and occasionally a patient sensitive to horse serum is benefited by the removal or drainage of infected areas in his nose or throat. From a consideration of these premises it would seem not entirely irrational to draw the tentative conclusion that the offending protein in asthma exists in the bronchial secretion of the patient. That this protein is the product of bacterial action is probable and that it is identical with many other substances outside the body is likely. Certain irritants such as dust bring on attacks by stirring up the residual bronchial contents and causing contact with more susceptible surfaces. When drainage from the bronchial tract is interfered with, sufficient amounts of the protein are accumulated to produce asthma while free drainage lessens the tendency to paroxysms. It is in this manner that the beneficial effects following the removal of infectious foci are explained and also the relief experienced in many cases from expectorants, particularly the iodides.

In a series of ninety patients examined and in whom a diagnosis of bronchial asthma was made, eighty-one have been treated with autogenous vaccines. So far as possible those cases were selected in which obvious and accessible foci of infection had been removed. Most of these patients had suffered over a considerable period and were well versed in the various cures while in many instances one or more operations on the nose, throat or sinuses had failed to give relief. Where the first series of injections was ineffective, if possible, a second vaccine was prepared and administered and this was also done in a number of cases after relapse had occurred.

In some patients the results from the vaccine were easily determined while in others in whom periods of freedom from attacks had already been experienced, discretion was required in drawing conclusions as to the degree of relief obtained. In order to secure information in the cases who had passed from observation, a letter was sent to each one requesting a statement as to the amount and duration of any benefit experienced. From the replies to these inquiries and from our own records it has been possible in seventy-one of the cases treated to procure sufficient information to permit drawing with reasonable accuracy the following deductions.

In fifty-three cases (or 74.6 per cent.) there followed the administration of the vaccine either complete freedom from asthma or a definite decrease in the frequency and severity of the attacks. The longest duration of complete relief was three years. The longest period of relative relief was four years and two months. As an example of what is considered relative relief the following case is briefly cited:

E. L. had suffered from autumnal hay fever, bronchitis and asthma for seven years. The asthma might occur at any season, but was most troublesome during and following hay fever and at this time was more or less constant for several months and very severe. Various remedies including change of climate had been tried with very little success. During one of these exacerbations she was given an autogenous vaccine with prompt relief of symptoms and entire freedom from asthma continued until the following fall when hay fever returned and with it paroxysms of asthma. A second vaccine again gave prompt results. Slight recurrences have appeared during the hay fever season and four different vaccines have been necessary, yet each one has been promptly effective. When asthma has appeared, this patient has sought treatment at once and her attacks have never persisted after the second or third injection of vaccine.

In eighteen cases or twenty-five and four-tenths per cent no definite benefit was derived from the vaccine. In none of these cases, however, was the treatment repeated after the first series of injections had failed. Owing to our inability to accurately standardize the substance injected, a certain number of failures has been expected.

No material change has been made in the preparation of the vaccine formerly advocated.

At the suggestion of Rosenow a very long tube of small bore is now employed in growing broth cultures in order to obtain aerobic and anaerobic conditions in the same tube and incidentally to procure all grades of oxygen concentration from zero to atmospheric. Since this innovation has been in use, a greater variety of streptococci have appeared in the cultures, but the effect of the vaccine seems in no way to have been modified.

Objections have been voiced against the use of so-called non-specific vaccines on the ground that they are dangerous either from the reaction produced or on account of the possibility of causing sensitization to a still greater variety of proteins and thus adding to rather than diminishing the patient's troubles. With the vaccines we have employed, no severe reactions have been observed nor, with a single exception, has the asthma appeared to have been increased by the injections.

We do not wish to be understood as in any way attempting to discourage or discredit specific therapy in bronchial asthma. Perhaps with more thorough study than we have heretofore been able to apply, many of our patients would have been more successfuly treated along specific lines. Certainly the idea of specific desensitization appeals more strongly to the scientific mind than non-specific. However, up to the present time, in the class of cases we have observed, the administration of the mixed autogenous vaccine has seemed to offer the most practical plan of therapy.

ENTEROSTOMY FOR POST-OPERATIVE INTESTINAL OBSTRUCTION.*

By ARTHUR S. BRINKLEY, M. D., Richmond, Va.
Associate Surgeon, St. Elizabeth's Hospital.

In this paper it is not my intention to discuss all types of intestinal obstruction, but that variety we have to deal with following some operative procedure within the abdominal cavity.

The most common causes for post-operative intestinal obstruction are ileus, volvulus, adhesions, and fecal impaction. We all know what a grave condition we are dealing with and the essential treatment is prompt surgical intervention. The more acute the obstruction the more urgent the operation. Today one does not need to dispute this point. Quoting from Binnie, Treatise on Regional Surgery, Vol. 2, page 248, "In my earliest surgical experience, 1878, the mortality after operations for acute intestinal obstruction was practically one hundred per cent." Even in 1896 Sir Frederick Treves wrote "The mortality of the operation for acute intestinal obstruction is very high, probably seventy-five per cent. An ideal mortality would not exceed five per cent. The difference between the two is due to delay. There should never be unnecessary delay after the diagnosis has been made." Quoting further from more recent works, Warbasse, Surgical Treatment, Vol. 2, page 596, says: "In acute intestinal obstruction the fatal conditions reside in the distended bowel, its contractile forces inhibited, its contents intensively septic and thrown back constantly in the more healthy bowel, its nerves and other structures traumatized by tension and a transudative peritoneal irritation developing. The greatest urgency is to meet these conditions rather than to relieve the obstruction."

It has been my experience both with my own and also with Dr. Horsley's cases at St. Elizabeth's Hospital that if the foregoing important factors are immediately considered in post-operative obstruction and operation done primarily to relieve these conditions the obstruction will take care of itself in the vast majority of cases. So often the patient is given a general anesthetic, a large exploratory incision made and with the enormous amount of distention it is almost impossible to keep the intestines within the abdominal cavity. The already traumatized and paralyzed bowel is further traumatized by handling. Then adding further insult to injury an incision is made into the bowel wall, a colon tube is inserted and the bowel irrigated with saline solution. This adds materially to the traumatism of the bowel wall and causes an over-stimulation to the already exhausted nerves within the intestinal musculature. If there is very little peristalsis left, this is usually destroyed beyond redemption with such treatment. If it has already ceased before surgical intervention the patient is usually beyond all hope anyway and there is no possible good that irrigation can do. I am convinced that the least done that will relieve the acute symptoms is the keynote to success in treating this condition.

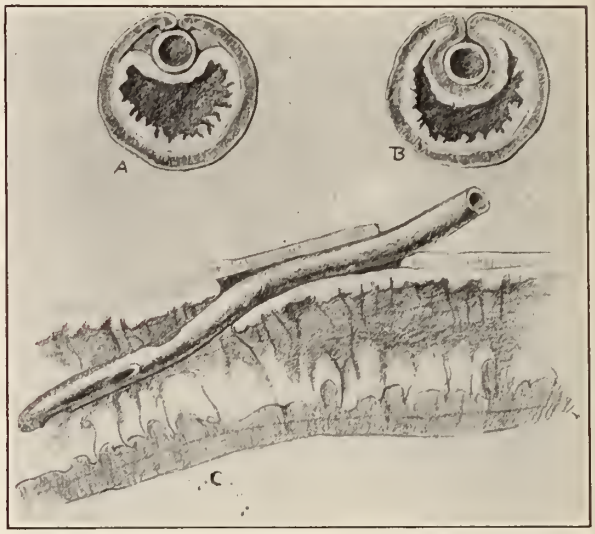
An enterostomy done through a small incision under local anesthesia is the method we are now using. The technique is described by

*Read at fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

Dr. J. S. Horsley in a paper entitled "Resection of the Cecum and Ascending Colon." (*Annals of Surgery*, January, 1919.) The patient is given a hypodermic of morphine half an hour before operation. A McBurney incision is usually made unless there is some indication to make it elsewhere. Novocain solution one-half of one per cent is used to infiltrate the tissues. When the peritoneal layer is approached care should be exercised to thoroughly infiltrate the pre-peritoneal fascia so that the fine plexus of sensory nerves will be blocked before opening the peritoneal cavity. The peritoneum is then incised and a quick exploration is done with the middle and fore fingers to locate if possible the point of obstruction. Then a loop of intestine nearest the obstructive point on the proximal side is brought up and an enterostomy done in the following manner. This enterostomy is based on the principle of Coffey of forming a valve of the mucosa. After packing around the chosen loop of intestine with gauze moistened in saline solution, an incision about two inches long is made with a sharp knife down to the mucosa. A purse-string suture of linen is placed at one end and the mucosa within the grasp of this suture is punctured. A soft rubber catheter is quickly inserted through the puncture, the purse-string tied snugly, an end of the suture is threaded in a sharp needle, the catheter transfixed and held in place. The portion of the catheter over the incision is then buried with a right-angled suture. The bowel is sponged off with saline sheets and returned to the abdomen. The wound is closed with interrupted through and through silkworm gut sutures. The catheter will stay in position at least five or six days and when removed there is little or no leakage of fecal contents.

This principle differs essentially from the Witzel method as the mucous membrane is thin, pours out but little plastic exudate, acts readily as a valve, and tends to close the opening after the tube is withdrawn: whereas in the Witzel method where the whole thickness of the bowel is used the canal may be so rigid from plastic exudate thrown out by the peritoneum and the thick bowel wall that it does not readily close. (See illustration.)

Gastric lavage with soda solution is ordered every four to six hours until there is no further indication for it. Saline, glucose and soda are given per rectum q. 4 hrs.; hypodermoclysis 4 to 600 c.c stat. and 50 c.c. q. hr., certainly for the first 24 hours—longer if indicated: caffeine sod'obenz'ate gr. ii or digalen min. xv, hypo if the patient's heart action is not good. The catheter is connected with a longer tube and the drainage is collected in a bottle tied to the bed-rail. Every two to three hours the catheter is disconnected from the longer tubing and about one ounce of warm water is injected into the bowel. This is done to keep the catheter open. All feeding is withheld for at least forty-eight hours, th n liquid nourishment is given every two hours for the next five or six days. Mineral oil ounces i, t. i. d., is started on the fifth or sixth day and S. S. enemas are given S. O. S. Always avoid drastic purgatives after obstruction. The catheter can usually be removed in five to seven days. However, to make assurance doubly sure I keep it in for ten days, in my cases.



(a) Shows cross section of enterostomy based on the principle of Coffey. Note only a very small part of the peritoneal coat comes in contact with the tube.

(b) Shows cross section of enterostomy by the Witzel method where the tube is completely surrounded by the peritoneal coat, causing a marked reduction in the lumen of the bowel as well as the formation of a rigid canal which may result in a permanent fistula.

(c) Shows sagittal section of enterostomy based on the Coffey principle. Note the valve-like formation of the mucous membrane.

The series of three cases of post-operative intestinal obstruction herewith reported were all operated on at St. Elizabeth's Hospital by the technique heretofore described and com-

prise all the operations of this character that I have done since July 1918.

The first case, Mrs. F., operation July 27th, 1918, was an old woman, age seventy, who had been operated on fourteen days previous for early cancer of the uterus, a pan-hysterectomy being done. She did very well until the twelfth day when she complained of feeling cold and of having sharp pain in lower abdomen. Her pulse was very weak and there was a profuse cold sweat. She was given digalen and aromatic spirits of ammonia and later morphine and atropine were given. She slept nearly all night. There was very little distention. The next morning an enema was ordered. It returned with a liquid clay stool and much flatus. She had some pain during the day, but it was not marked and there was no vomiting. She was given another enema that afternoon which returned with a large yellow stool and much flatus. On the next day she had more distention than usual and began spitting up a good deal of yellow fluid. She was given gastric lavage but it afforded only temporary relief. About noon her expression was bad, she had a very severe vomiting spell and her pulse became very weak. As soon as she rallied from this vomiting spell she was taken to the operating room and an enterostomy done under novocain anesthesia. A McBurney incision was made and the cecum located and found to be distended. The ileocecal valve was next located and the ileum was also markedly distended up to the cecum. No mass could be felt but from the findings the obstruction seemed somewhere in the colon. A quick entero-tomy was done, using the most accessible part of the cecum. A great deal of gas was expelled through the tube but very little fecal material. The wound was closed with silk-worm gut and the patient returned to bed. The usual orders were given. She had no more vomiting but was irrational at times for three or four days after operation. The drainage was profuse through the tube after the first six hours. Her bowels began to move with enemas after the fifth day. The catheter was held in with adhesive for about ten days. The patient had a slow convalescence, but left the hospital in good shape six weeks later.

The second case, J. S., operation June 11th, 1919, a young boy, about 15 years old, had been operated on ten days previously for a ruptured appendix and general peritonitis. The appendix was removed through a McBurney incision and the peritoneal cavity was drained with a rubber tube. The patient was quite sick for four or five days. There was a good deal of distention, but no vomiting, temperature ranging from ninety-nine and four-fifths degrees to one hundred and one, pulse one hundred to one hundred and sixteen. He passed gas freely and had one to three good bowel movements every day from the saline, glucose and soda solution. He was given calomel in fractional doses on the sixth day and the bowels moved several times from this, and he slept well the following night. The next day he complained of severe pain in the lower right side of the abdomen. With the exception of pain he had no other sign of obstruction. The following night he suffered a great deal and was given morphine hypodermically twice. The next morning he vomited a large quantity of foul smelling material and there were signs of violent peristalsis. The pain was very severe at short intervals. He was taken to the operating room and an incision about three inches long was made at the outer edge of the right rectus muscle just below the umbilicus, novocain anesthesia being used. On opening the peritoneal cavity, the small intestine was much distended. Two or three loops of intestine were found to be very adherent in the right iliac fossa. A loop of intestine near the obstruction on the proximal side was brought up and an enterostomy quickly done. A great deal of gas and fecal fluid was expelled when the catheter was inserted in the bowel. The wound was closed with interrupted silk-worm gut sutures, through and through, and the patient returned to bed. The usual orders were given. The patient vomited once about three hours after the operation. He was rather uncomfortable for the first twelve hours, but after that convalescence was rapid. His bowels moved on the third day and regularly after that. Convalescence was uneventful from then on and he left the hospital in good shape three weeks after this operation.

The third case, Mr. I. H. L., age 45, operation June 30th, 1919. A previous operation had been done twenty-four days before for a stricture of the lower end of the left ureter. Convalescence was uneventful until the twenty-second day after operation. He complained of some pain and fullness in the abdomen. He was given an enema with good results and

felt very much better. He ate heavily for breakfast. In the late afternoon he vomited an enormous quantity of undigested food. Gastric lavage was done. He had little or no pain after this, but was nauseated, however. He had a fairly good night. For a week before this attack the patient had been eating very heavily and we thought he had a toxemia from over-eating so calomel in fractional doses was ordered. He had a fairly good day after this, but was nauseated and vomited once. He spent a very comfortable night. The next day practically no results had been obtained from the calomel even after a large enema was given. He began vomiting again and there was marked distention and the convolutions of the intestines could be outlined by palpating the abdomen. The patient was taken to the operating room and a McBurney incision was made under novocain. On opening the peritoneal cavity an enormous quantity of straw-colored free fluid was expelled. The loops of the small intestine were found markedly distended and congested. The cecum was fixed and it was impossible to deliver it into the wound without a great deal of pain. With the middle and index fingers the area was hurriedly explored but no obstruction could be located. A very much distended loop of gut presenting itself nearest to the wound was brought up and an enterostomy quickly done. A very large quantity of foul smelling fecal fluid was expelled through the catheter, while the wound was being closed with interrupted silk-worm gut sutures. The patient was returned to bed and the usual orders given. He spent a very comfortable night, complained of no pain and had no more vomiting after the operation. The drainage was profuse for the first thirty-six hours. On the fourth day he had a good bowel movement following an injection of saline, glucose, and soda solution and after this his bowels moved regularly every day. On the eleventh day mineral oil followed by compound licorice powder was given and the bowels moved freely. The catheter was then removed. The patient had an uneventful recovery and left the hospital twenty-six days after the operation.

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DIABETES.*

By WILLIS W. SILVESTER, M. D., Norfolk, Va.

Instead of attempting to define diabetes, it is well to state the firmly established fact that the primary and essential feature of diabetes is an inability to utilize sugars. All else is secondary to this deficiency. The hyperglycemia, the glycosuria, the glycogen depletion and increased glyconeogenesis are in response to a constant demand of the tissues for more sugars which they cannot use.

A tolerance reduced so low that sugar occasionally appears in the urine on an ordinary diet does not always mean diabetes. It is true that the distinction here requires the most refined clinical interpretation, for diabetes, no doubt, often begins as an elementary glycosuria, and passes gradually through the stage of glycosuria following starch ingestions, and finally to glycosuria upon a pure protein diet.

The importance of early diagnosis in diabetes can not be too strongly emphasized, since there is every reason to believe that judicious dietary management will postpone, and in some instances, possibly avert the later serious stages of the disease.

It is best in examining for sugar in urines, to have specimens passed one to three hours after meals and not a morning specimen, for the morning specimen is the one least likely to contain sugar. Occasionally a patient will be seen who is sugar free in the morning, but who will have sugar continually during the day.

It is accepted universally that the earlier a disease is detected, the more amenable it is to treatment. It behooves us then, to recognize disease in its earliest stages. If careful consideration is given the matter, the importance of recognizing the early stages of disease will be realized, and moreover, from the patient's point of view, it is vastly more important to observe the early stages of disease than to recognize the peculiarities when it has produced physical signs, or when it is found on the post-mortem table.

Diabetes, unfortunately, is one of the conditions in which symptoms of a sufficient degree to disturb the patient enough to cause him to consult a physician, do not develop

*Read at the meeting of the Seaboard Medical Association in Norfolk, Va., December, 1919.

until the condition is moderately well advanced. Glycosuria is one of the earliest symptoms, and in its earlier stages does not cause subjective symptoms, therefore it behooves every physician to be most careful and painstaking in taking the history and getting the clinical data, the latter particularly in regard to a routine urinary examination. In routine urinalysis, one should not be satisfied with the examination of a single specimen. My routine is to examine a specimen every other day until three specimens have been examined. An evening specimen in diabetes is preferable to one taken in the morning. One should also examine a specimen from a twenty-four hour specimen. It is not unusual to have pathological findings in the second or third or twenty-four hour specimen, when the findings of the first specimen were normal. Any clinical findings should always be checked and an average taken. One should always keep the thought in mind that clinical and laboratory findings may not be half as bad as they seem. The findings of the condition of the whole organism must be summed up, and the patient treated accordingly.

A diabetic with an avocation as well as an occupation, provided the avocation is not too strenuous, is in a much better position to improve his metabolism than one without. Occasionally it will be necessary to change a person's occupation in order to obtain satisfactory results.

The object to obtain in diabetics is to get them sugar and ketone free and blood sugar normal, and keep them there. To keep them at this point is the hardest part of the treatment. With the patient in bed and under your direct observation, and with an intelligent person that can be relied upon, absolutely, to carry out your directions, and keep the patient from stealing food, you can, as a rule, attain the object above stated.

I have had patients that would steal food in spite of a mother's watchful eye. One case in particular, a girl of thirteen years, who after several weeks of hard work, I had succeeded in rendering sugar and ketone free and blood sugar normal, suddenly showed considerable sugar. The mother had locked up every bit of food in the house. She had even taken the milk out of the refrigerator. A day or two later, I learned that the patient had sent her young brother of four years, six squares to a bakery for sweets.

The craving at times for starches is to be compared to an addict of morphia for the drug, or a chronic alcoholic for whiskey. Some patients will sail smoothly for a short while, in regard to their diet (few days or weeks); others will go for longer periods (months and years), but there remains an inherent tendency to break over some time or other.

When a patient does break over, then is the time for a physician to use his good judgment in quietly and considerately explaining the harm that has been done and not to criticise too harshly. I know of no condition where greater care and judgment on the part of the physician should be used.

When a diabetic comes under my care, the routine in the average case is as follows:

For the first twenty-four hours specimen on ordinary diet (by that I mean a mixed diet with no particular restriction in carbohydrate). This first specimen is examined for acetone, diacetic acid and quantitative sugar: blood sugar is also estimated. I would like to state that the technique for examining for blood sugar is most simple and accurate, and can be done by the average practitioner with ease. The method I use is Epstein's modification of the Benedict Lewis method.

Second day, patient on a low carbohydrate free diet, which is as follows:

Eggs to weigh 50 to 55 grams with the shell.

	P	F	C	Cal.
Breakfast				
One egg	6.2	4.8		72
Coffee, 150 C. C.				
Dinner				
Tea, 150 C. C.				
Broth, 150 C. C.	7	1	1	37
One egg	6.8	4.8		72
Bacon, 15 Gms	1.5	9		90
Olive oil, 15 C. C.		15		135
Lettuce				
Supper				
Coffee, 150 C. C.				
One egg	6.2	4.8		72
Bacon, 15 Gms	1.5	9		70
Vegetables				
	28.6	47.6	1	578

Then a specimen from a twenty-four hour specimen is examined daily; when the urine becomes sugar free, the blood sugar is estimated once or twice a week and the diet is varied so as to try and render the blood sugar normal and keep the urine free from ketones.

The plasma and alveolar CO_2 tension are also determined.

If necessary, the patient is kept on the low caloric diet for a long period of time, and then when the value of the diet is raised, it is raised very slowly indeed. *Absolute rest is essential.* A patient, especially the acute case, must stay on his back in bed, and should not be allowed to even sit up in bed. Later, when the patient has improved, a moderate amount of light exercise is quite beneficial in certain cases.

To attempt to establish a tolerance or assimilation limit without a pair of scales is folly. I have several pairs of scales, and one of these I lend to a patient until they can get a pair of their own. You had just as well not restrict the diet at all as to give patients diet lists and tell them that they may eat certain articles of food and may not eat certain other articles of food, without regard to the quantity, as much harm, and usually more harm is created by patients overeating articles allowed them, than by their eating the restricted foods.

I wish to draw particular attention to fat in the diabetic diet. Too much stress can not be laid upon the harm that can be caused by fat. The amount of fat in the diet should be kept low. Often, much more carbohydrate can be tolerated if the fat is kept low and the continuous use of too much fat will gradually lower the carbohydrate tolerance and make the danger from acidosis great.

We must learn to value all the metabolic processes of the human organism. When one system is at fault, it reacts on the others and the others must be given due consideration, or the whole organism will be affected beyond repair long before it should have been.

A constant record of the patient's weight should be kept.

Acidosis or Ketosis.

In the medical literature there has been considerable confusion over the correct definition of acidosis, due chiefly because the term was first used for the particular variety of the condition observed in the later stages of diabetes mellitus. In the tissue fluids the acids which accumulate in this disease are aceto-acetic and beta-oxybutyric, and they are oxidation products of acetone, which is again derived from fatty acids by a faulty metabolism.

The essential cause of the acidosis (diabetes) is therefore entirely different from that in nephritis: in diabetes, foreign acids are added to the blood, whereas, in nephritis, the acids of a normal metabolism accumulate because of a faulty excretion throughout the kidneys. The usual signs of acidosis exist in both cases, because the surplus of acid depletes the store of bicarbonates and causes changes in the alveolar CO_2, in the CO_2 absorbing power of the blood, in the reserve alkalinity and in the acid excretion by the kidney.

Macleod suggests that diabetic acidosis be recognized by a separate name— KETOSIS.

I will not attempt here to discuss the chemical processes by which the ketone bodies are produced.

In order that the fat may be combusted in the body, a certain amount of carbohydrate must be burnt at the same time. Impairment of the organism in its ability to handle carbohydrate means a curtailment of the power of the fat metabolism and this impaired power gives rise to the ketones and derived acids.

The signs and symptoms by which the onset of ketosis is manifested are of such a wide variation, that one has to be unusually alert where the condition is suspected. To absolutely rely on the symptoms (objective and subjective) and urine findings is not by any means a true guide.

At times the onset is most rapid, and one may say, relatively speaking, that all ketoses are quite rapid in the sense that rapid, active, accurate and urgent care is essential in order to combat the condition.

Occasionally the necessity arises for the use of bicarbonate of soda intravenously. Due to the fact that a most important point in its preparation is at times overlooked, I am giving the method of preparation below.

Intravenous Sodium Bicarbonate Solution.

To prepare a solution of sodium bicarbonate for intravenous injection in acidosis:

Bring a litre of sterile distilled water to the boiling point. Remove from flame. Add immediately thirty (30) grams of sodium bicarbonate (C. P.) taken directly from the original container and weighed in a sterile vessel. Cool the solution to the desired temperature (110 degrees F.) and use at once. Sodium bicarbonate can not be sterilized by boiling on

account of the transformation of the bicarbonate into carbonate. (Often overlooked.)

Prepared as above, the solution will keep under sterile conditions for one day, but it is best to prepare fresh for each administration.

I am heartily in accord with the views of Solomon Stronse (Assistant Professor of Medicine, Northwestern Medical School), in the following statement:

"In diabetes, there is a condition of comparative well being, which it seems to me, from the clinical point of view, is often decidedly better for the patient than the theoretical scientific ideal which we sometimes aim to attain. I mean by that that some diabetics are better off passing a certain percentage of sugar than they are when rendered completely sugar free. This statement, I know, is considered heresy by the more modern investigators, and yet, personal experience reveals the fact that there are unquestionably a comparatively large number of diabetics who maintain an excellent state of being, and yet who continually pass sugar.

"The keynote in the treatment of diabetes is as in the treatment of other conditions. There are all degrees of severity of the disease, from mild to severe, and no two patients are treated alike, and with one patient, the treatment is often varied.

"Study the individual—if possible, find their metabolic faults and correct them.

"The improvement in treatment of diabetes recently has been considerable. At times methods used years ago are most valuable, and one in particular I have reference to, and that is the oatmeal cure. This I have seen clear up a most aggravating condition when other methods fail.

"The condition I refer to is as follows:

"When a patient has been rendered ketone and sugar free and in attempting to raise the diet you can not keep them both sugar and ketone free. It is at this point that I have on more than one occasion found value in the oatmeal cure. The oatmeal cure here, in some instances, gets rid of the aggravating acidosis and naturally increases the sugar contents of blood and urine, but subsequently, you can get rid of the sugar and gradually raise the caloric value of the diet and give more carbohydrate without glycosuria ketosis.

Oatmeal Diet

Six meals, 8, 10, 12 A. M., 2, 4, 6 P. M.
Oatmeal, dry, 250 Gms.
Butter, 250 Gms.
Whites of six eggs.
Coffee twice in one day.

"One other condition, I might say a relatively frequent complication in diabetes, is CONSTIPATION. One of the best methods of relieving this is by using bran biscuits. When this fails, other methods have to be resorted to. Real often I use bran biscuits when constipation complicates other conditions.

Following is the recipe for bran biscuits:

Bran	60 Gms.
Salt	¼ teaspoonful.
Agar agar powdered	6 Gms.
Cold Water	100 C. C. (½ glass).

"Tie the bran in cheese cloth and wash under cold tap water until water is clear. Boil agar agar in the water (100 C. C.) to the boiling point. Add to the washed bran, the salt and agar agar solution (hot), mold into eight (8) cakes. Place in pan on oiled paper, then, when firm and cool, bake in moderate oven 30 to 40 minutes.

"Powdered agar agar may be had from Eimer and Amend, 205 Third Ave., New York, if not from your local dealer."

An article in the November issue of the *Journal of Biological Chemistry*, by Israel S. Kleiner, of the Department of Physiology of the Rockefeller Institute for Medical Research, states:

"It is evident that the demonstration of a beneficial effect of a pancreas preparation, when administered parenterally to a diabetic animal, would be of importance both theoretically and practically. Theoretically, it would support the internal secretion hypothesis of the origin of diabetes. Practically, it would suggest a possible therapeutic application."

I will simply quote the summary of his article, and those particularly interested in this subject, should read the entire article. Diabetic dogs were given intravenous injections of unfiltered water extracts of pancreas diluted with 0.9 per cent. Na Cl solution. The preparation was administered very slowly and usually resulted in a marked decrease in the blood sugar. There was no compensating increase in the urinary sugar, but rather a decrease, which may be partly due to a temporary toxic renal effect. The result is regarded

as further evidence for the internal secretion theory of experimental diabetes.

In order to treat successfully any metabolic disorder it is imperative that one should be familiar with the fundamental facts of metabolism. One should study metabolism as a whole and not in part. When protein metabolism, carbohydrate metabolism, or any other special aspect of the subject is studied by itself, many of the most important phenomena, and especially the regulation of physicochemical equilibria are overlooked. Disease is, after all, in its very essence, a disturbance of organization; in short, diseases of metabolism involve by definition disturbances of equilibrium, which may or may not be compensated.

In conclusion, one could not better epitomize than to quote from a recent article by Dr. Geyelin, of New York City:

"1.—Diabetes in its severe and acute form is not limited to the first three decades of life, but may be found at any age, although rare in persons over thirty. In my experience, it is more common between fifty and seventy than between thirty and fifty.

"2.—Absolute adherence to the diet is essential to a maximum degree of successful results in treatment; without, there is no hope unless the diabetes is very mild; and even in that case, there is great risk of its becoming severe.

"3.—Fast days and half days are of great help in treatment of the majority of patients, but are not necessary as routine measures in all cases at all times.

"4.—It is wise for a patient under treatment to realize that he or she is not a normal person, on a normal diet, and to regulate his mental and physical activities, and therefore his caloric output by his caloric intake.

"5.—Exercise should be advised only in exceptional cases and in proportion to the amount of energy afforded by the caloric intake. Rest, rather than exercise should be urged.

"6.—Long continued diets overbalanced in fat (180 Cms. and over) are harmful, and their harmful effect is insidious. Aside from their immediate effects in the production of acidosis and glycosuria, they have a depressing effect on tolerance. This effect is only overcome by long periods of low caloric intake.

"7.—We have no cure for diabetes; but we have a greatly improved method of treatment, particularly as regards prolongation of life and the avoidance of surgical complications, as many observers who have employed the general principles advanced by Allen will testify."

I am mindful of the repetitions that have occurred in this paper, but no apology is offered, for too much stress cannot be laid upon the entire subject.

In conclusion, please bear in mind, that in diabetes, the indiscreet use of fat is most harmful and is to be looked upon as one would regard a malignant growth.

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TETANY IN ADULTS.*

By WILLIAM H. HIGGINS, M. D., Richmond, Va.

It is probably true that symptoms arising from the gastro-intestinal tract are the most frequent manifestations of disease with which we are familiar. In practically every systemic or local pathological condition, digestive disturbances are generally present. This observation was undoubtedly the cause of former writers attributing many disease-precesses to the stomach which rightly belonged to other domains.

There is a widespread belief among clinicians that the syndrome known as tetany or tetanoid states is definitely associated with diseases of the gastro-intestinal system and particularly with gastric or duodenal ulcers. So firmly is this idea adhered to that the terms tetany and gastric tetany are practically synonymous. To what extent this opinion can be substantiated by scientific evidence, no one has satisfactorily shown, but we do know that there are other factors which are of far-reaching significance in their relation to the etiology of this interesting condition.

The purpose of this paper is to discuss the etiology of tetany, and to report one typical case without gastric symptoms.

Tetany is characterized in its outspoken form

*Read before the Richmond Academy of Medicine and Surgery, January 13, 1920.

by paroxysmal tonic contractions, often painful, usually confined to certain definite groups of muscles and, as a rule, unaccompanied by unconsciousness; paraesthesiae in the extremities; certain trophic disturbances (hair, teeth, nails, lens), and certain signs that can be experimentally elicited, dependent upon overexcitability of the nerves, including the Trousseau phenomenon, the Chvostek phenomenon, and Erb's sign.

Historical. The first description of tetany was made by Steinheim in 1830, under the title of "Two Rare Forms of Severe Rheumatism;" and in 1831, Dance described it as an intermitten tetanus.

About the middle of the last century, the disease appeared in epidemic form in Paris, in the prisons of Belgium in 1846, and in a girls' school at Gentilly in 1876; Billroth, in 1880, recorded the occurrence of tetany after the removal of the thyroid gland for goitre, but it was not until after the parathyroid glands were discovered by Sanstroem in the same year that the first substantial contributions were made in the study of its etiological factors and symptoms. Since then, experimental work on animals by Horsley, Von Eiselberg, Halstead and others has shown that the parathyroid glands are responsible in part at least for the disease. Von Eiselberg was the first to transplant successfully the human parathyroid for the cure of tetany.

On the other hand, post-mortem findings in cases of tetany do not always reveal pathological changes in the parathyroid glands. It is also a well known fact that parathyroid lesions as severe as have been found after tetany may occur in patients who during life have shown absolutely no evidence of tetany. The experiments of Binger brought out the fact that typical tetany may be produced in dogs when the parathyroids are left entirely undisturbed.

More recent work, especially the reports of McCallum, Voegtlin, and Berkley, showed that there was also a very definite disturbance of metabolism in these cases. Metabolic studies indicated a diminished carbohydrate tolerance, an increased calcium excretion, and an increased ammonium content in the blood. Of these results, the changes in the calcium excretion have been of the greatest significance, especially in the production of infantile tetany. Howland states that the close connection between rickets and tetany, in the former of which there is a known error of calcium metabolism, has been sufficient to suggest a similar disturbance of calcium metabolism in tetany. The observations of Sabbatini, that a solution of calcium applied to the brain diminished its irritability to electrical stimulation, while the use of substances causing a precipitation of calcium brought about an increased irritability, has given additional evidence of this etiological relationship.

In a recent study of the calcium content of the blood in infants, Howland summarizes as follows: "From the regularity of our findings, it appears that convulsions may be expected when the calcium content of the serum becomes less than 7 mg. per 100 cc., or to put it another way, when there are convulsions and other symptoms due to tetany, the calcium of the serum is 7 mg. or less per 100 cc. The amount of calcium in the serum is strikingly close to that found by McCallum and Vogel in the serum of dogs after parathyroidectomy. Even though the factors governing the calcium metabolism in disease and health have not been definitely determined, there is ample experimental and clinical evidence to show that the calcium loss from some cause is in a large measure directly responsible for the tetanic syndrome. In what manner the calcium metabolism is influenced by the parathyroid secretions is still unsettled, yet it undoubtedly has a distinct relationship. It must, therefore, be assumed from the strikingly corroborative results that the calcium metabolism is dependent upon, not only the parathyroid activities, but upon other factors as yet undetermined.

Classification. Tetany is frequently seen in children, but is relatively rare in adults in North America. It is prone to occur during the first three months of the year and may affect several members in one family, or recur in succeeding generations. Males are more often attacked than females; and certain occupations (shoemakers, tailors, metal workers) seem particularly liable to the disease. According to the classification of Frank-Hochwart, the following types of tetany in adults may be recognized:

1. Idiopathic, professional or endemic tetany. This form is most frequently seen in Vienna and Heidelberg. It is interesting to

know that a mild epidemic occurred in New York in 1893.

2. Tetany of gastro-intestinal origin, usually associated with dilatation of the stomach and pyloric obstruction. This is the type most generally described in the literature, and was formerly supposed to be due to toxins elaborated by an impaired gastric digestion. Kussmaul was the first to report tetany as a complication with gastrectasis. He believed that the convulsive seizures were due to a dehydration of the tissues caused by hypersecretion and gastric retention. In a resume of thirty cases occurring in America, Howard reported that 80 per cent. were of gastro-intestinal origin and manifested symptoms of gastrectasis. This report, however, was made in 1906, and was based on gastro-intestinal studies which would be open to question at this time.

Many experiments have been carried out, attempting to prove the specific toxicity of the stomach-washings in these cases, but no satisfactory conclusions have been reached. It has been shown that if the washings are placed in an alcoholic solution and then injected into the veins of animals, certain atypical types of convulsions may result, but typical reactions from the untreated stomach contents have never been secured.

3. Acute infectious diseases (typhoid fever, measles, influenza, etc.), occur occasionally with tetany. In the 77 cases collected by Howard, there was a history of an acute infection in ten.

4. Tetany may follow poisoning from alcohol, morphine, ergot, chloroform, cocaine, and a number of less commonly used drugs. In a recent journal, Harrop reported a case of tetany from the Johns Hopkins Clinic, following an intravenous injection of bicarbonate of soda. This patient had swallwed bichloride of mercury, and during the twenty-four hours previous to the attack, 60 grams of soda had been injected into her veins. Typical tetanoid convulsions had followed. Under this heading may be mentioned tetany associated with the uræmia of chronic nephritis, which has occurred in a few instances.

5. Tetany of pregnant, puerperal, and nursing women. Recurring attacks of tetany have been noted in women during succeeding pregnancies and during lactation. Vassal has shown that partially parathyroidectomized animals did not develop tetany until pregnancy or lactation intervened.

6. Tetany following extirpation of the parathyroid glands. This type was very common as a sequel to thyroidectomies before the parathyroids were discovered. Its occurrence now is of course a purely accidental one.

7. Tetany may appear with nervous disorders, as brain tumors, syringomyelia, and Graves' disease.

Symptomatology. Tonic spasms occur in certain groups of muscles, especially in the upper extremities, resulting in the so-called obstetrical hand. The proximal phalanges are flexed, while the middle and distal phalanges are extended. The thumb is turned toward the palm and firmly held against the other fingers. The elbow is held midway between extension and flexion with the upper arm adducted. Similar spasms occur in the lower extremities with extension of the hips and knee and a strong plantar flexion of the foot and toes. Some patients present pallor of the skin, dermatographia, angioneurotic œdema, or erythema. Trophic changes may also be found in the hair, teeth, and nails. Another interesting trophic disturbance is a perinuclear cataract causing no subjective manifestations of impaired vision.

Between the attacks, certain latent signs of tetany have been observed, and can be usually elicited. The following are the more important ones, and are more or less characteristic of tetany:

1. Trousseau's phenomenon is the reproduction of the typical obstetrical hand-attitude when constriction of the nerves in the median occipital groove is made. This can be easily accomplished by putting a blood-pressure cuff on the arm, and inflating it to the point of obliteration of the artery.

2. Chvostek's phenomenom depends upon increased mechanical excitability of the motor nerves and muscles. Thus, in tapping the trunk of the seventh nerve in front of the ear, there will be a contraction of the muscles supplied by this nerve. The degree of the contraction or spasm will depend on the severity of the attack.

3. Erb's sign depends upon the increased electrical excitability of the motor nerves in tetany. It is the most constant phenomenon

and may be present several weeks after the disappearance of the spasm.

The sensory nerves are also over-excitable. There may be simple paraesthesia, or distress in the form of formication. The reflexes show no constant changes. There may be various vasomotor or trophic disturbances. Dryness of the skin, falling out of the hair or nails, pigmentation of the skin, or erythema may be present. Flushing of the face, injection of the conjunctivae, or urticarial emptions have also been noted.

According to Barker, disturbed mental states are common in both acute and chronic tetany. The patient may present anxiety states or general neurasthenic symptoms, sufficient at times to cause one to suspect mental deterioration.

The following history is of particular interest, as it represents one of the most infrequent types of tetany:

White female, age 38; married, American; occupation, housework. Her family history is unimportant, and her previous history reveals no illness or other factors bearing upon her present condition. Her menstrual periods began at 15, and have been regular and normal. Her first child was born in 1915. She had no complications, and lactation proceeded uninterruptedly over the usual period of nursing. The second child was born 7 months ago, and up to the date of her present illness, she has nursed him regularly without any disturbing factors. The child is well-nourished and presents no evidences of rickets or malnutrition.

The present illness began about 4 weeks ago with a feeling of general weakness and malaise. She was much more nervous than usual and at times was rather emotional. On the morning of her first attack, she complained of pain in her left breast, and in a few hours she had a chill followed by fever. Later on in the day, she began having marked tingling in her hands, face, and feet, feeling as if an electric current were running through her body. This sensation was followed by a spasm of her arms and legs. She states that this attack lasted about one hour when it was relieved by a hypodermic of morphine. There was no nausea or digestive disturbances. The pain in the breast subsided by the following morning, and aside from weakness, she was well until three weeks later, when the second convulsion appeared. On the day preceding this attack, she began having pain in her left breast, followed by slight fever. This convulsion was ushered in by the same tingling and numbness as she experienced on the former occasion. When I saw her during this attack, her facial lines were deepened, especially around her mouth, presenting the characteristic grimace to her countenance. Her arms were adducted, wrists extended, and her hands and fingers were in the typical obstetrical hand attitude. Similar spasms were present in her lower extremities with extension of her knees and hips, and flexion of her foot and toes. Her abdominal muscles were in a state of intermittent tonic contractions. Her pulse and respiration were accelerated, but there was no evidence of cardiac failure or unconsciousness. The patient complained of no pain, but some soreness in the affected muscles. This attack terminated at the end of two hours, following a hypodermic of morphine. Calcium in large doses and parathyroid extract were begun immediately.

After an interval of two weeks, the breast showed definite evidences of an abscess, which was opened and drained. Since then, there has been no recurrence, and her general health has gradually improved. Chvostek's sign and Trousseau's phenomenon were present for a week following the attack.

Examination: Patient is a well-nourished woman. Her skin is dry, and over her face there are areas of discreet and confluent patches of pigmentation extending above the eyebrows down to the angles of the jaws on both sides. Eyes are negative. Her teeth show no transverse ridges or other trophic disturbances. The nails are normal in appearance. There is no general glandular enlargement. Heart and lungs are negative; blood pressure, 110-70.

Abdominal walls are relaxed, with no areas of tenderness. Spleen and liver are not felt. No oedema of extremities, no tremor, and no sensory disturbances. Reflexes are normal. Chvostek's and Trousseau's signs are present.

Urine is negative. Hemoglobin, 85%; differential count is normal. X-ray examination shows a well-marked gastroptosis with a stomach slightly larger than normal. The stomach was completely empty at the end of six hours.

In a consideration of the etiological factors in this particular case, there are several points of interest. If we follow the generally accepted classification of tetany, the gastrogenic type naturally demands our immediate attention on account of its alleged overwhelming frequency as compared with the other causes. This patient had no digestive symptoms, although subsequent examinations revealed a large stomach and a well marked gastroptosis. A few years ago, we would have considered this finding sufficient evidence to attribute the convulsive seizures to this abnormality. We are indebted, however, to the roentgenologists for demonstrating the wide variance in both the size and position of the normal stomach, particularly in women with long thoraces. Even though nausea and vomiting had been an accompanying factor, their presence could be readily accounted for by the violent contractions of the abdominal wall during the attack. As many of the reports of cases of this type have no more corroborative evidence than found in this history, I believe that we are safe in assuming that the gastrointestinal canal plays a minor role in the precipitation of tetany.

The occurrence of tetany during lactation has been reported by some writers, yet it has been exceedingly rare in this country.

In 1913, Kehrer was able to collect only twenty-three illustrations of this type in the

literature; and in a series of thirty cases reviewed by Howard from American sources, only two occurred during lactation. If the mere withdrawal of calcium from the body were the sole factor in the production of this condition, its appearance during lactation should not be unusual, but judging from the number of incidences on record, it must be considered from another standpoint. The fact that lactation had proceeded without the occurrence of tetany with the previous child and that for seven months it had continued without interruption on this occasion, makes it improbable that lactation alone could account for the calcium loss.

The third possible etiological factor in this history is the infection in the mammary gland. The acute exacerbation of the abscess appearing with both attacks of tetany is undoubtedly more than a coincidence. It is interesting to note that the attacks came on at the beginning of the infection, and did not recur after the abscess had developed. Reference has already been made to the fact that tetanic seizures may be reproduced by injecting into the blood stream substances capable of precipitating the calcium. So far as I am able to discover, no one has shown that calcium metabolism is altered during acute infections, yet it is conceivable that a bacteremia or toxemia may bring about a change in the calcium equilibrium similar to that caused by the use of certain chemicals. In fact, it seems that the obscure factors necessary to produce tetany are intimately linked up with calcium production and output, and whatever relationship exists between the predisposing causes enumerated above and tetany, is dependent upon their influence on the metabolism of calcium. In what manner the calcium of the body is affected by these associations, no one has definitely determined; yet sufficient progress has been made to discard the usual classification for a more rational one, and to offer therapeutic measures of definite value in the treatment of this alarming condition.

To summarize, we must recognize a low calcium content, at least 7 mg. per 100 c.c. of blood serum, as necessary before tetany results. Although a parathyroid deficiency will bring about this change in the calcium metabolism, it has been shown that other factors will produce similar spasms.

The administration of parathyroid extract in certain cases and of calcium in all cases is undoubtedly beneficial, and should be pushed to the point of tolerance.

Tetanoid states without convulsions may exist over a long period of time and may be recognized by the so-called latent signs of tetany.

Gastric symptoms in all probability have no significance in tetany, and there is no reason to believe that diseases of the stomach bear any etiological relationship to this condition.

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DISCUSSION.

The President, Dr. J. Garnett Nelson, commended the paper, saying it was of the type to which he had referred in his address. He disagreed with the statement that there had been no pain in the case described, as he, also, had seen the patient and found pain existent. He asked, how frequently is there pain and soreness in these cases?

Dr. J. K. Hall said that in an article in Endocrinology (July-September, 1919), Edouard Uhlenhuth of The Rockefeller Institute of Medicial Research contributes an article on the functions of the thymus gland. In this article, Uhlenhuth, as the result of experimental feedings of calf's thymus to larvae of certain species of salamander, produced generalized tetanic convulsions similar in kind to those that occur in the cond tion known as tetany, and in no way unlike those that follow experimental removal of the parathyroid glands. After the larvae have reached a certain age, however, under like feedings these muscular disturbances do not take place. This phenomenon he explains by the assertion that salamander larvae are without parathyroids before the age of metamorphosis. Coincident with this morphological transformation the parathyroids develop. Uhlenhuth concludes that the tetanic-like convulsions occurring in the salamander larvae during thymus feedings are the result of a specific substance in the thymus gland, and that absence of these convulsive phenomena after morphological transformation of

the larvae is due to the presence of some substance produced by the newly-developed parathyroids which inhibits thymus activity.

Dr. A. G. Brown, said that in these cases the question of calcium balance is important. Whether the normal content of the blood passes out and bathes the muscles, the tonus being disturbed and the muscles responding to unusual nerve-stimuli, we do not know; but in these cases we frequently find food, possibly decomposing food, in the gastrointestinal tract, and absorption of the decomposition products may cause the trouble. He also saw the case cited by Dr. Higgins, and he has seen five others of so-called gastric tetany; 1°, that of a man who had eaten and drunk abnormally; 2°, that of a woman who had eaten a great deal of watermelon; 3°, that of a woman with a food-distended stomach, which was relieved by lavage and a hypodermic of morphine; 4°, that of a man who had eaten imprudently and was relieved similarly. He thinks, therefore, there is a connection between the gastrointestinal tract and the neuromuscular system.

Later on, disucussing the relation of the protein of bacterial action to calcium metabolism, he asked, may it not be that there are buffer-salts that will withstand the action of foreign protein? Why did the old doctors give calcium sulphide in pimples and boils? Why do we give serum? Why calcium in angioneurotic edema, hay-fever, etc.? Because of the protein in the blood, he said.

Dr. C. C. Coleman said he had been much interested in an article on Electric Reactions in Tetany, in Infants by Dr. J. S. Weitzel. The disturbance is apt to be found in the muscles having to do with the finer movements. Chvostek's sign is found in the facial muscles. The peculiar position of the hand in Trousseau's sign is due to contraction of the interossei. In nearly every instance, the convulsions in cases of rickets are found to be due to tetany. Without the major signs, tetany can be diagnosed by galvanic stimulation, with two milliamperes of current, applied to the external peroneal nerve.

Dr. Mark W. Peyser, referring to the paper mentioned by Dr. Coleman, asked Dr. Coleman if he knew whether the normal formula ever reappeared in these cases. He noticed that in the diagrams shown by Dr. Weitzel that while the anodal closing contraction approximated the normal, it never assumed its proper relation absolutely.

Dr. Coleman said he could not answer Dr. Peyser's question relating to the normal formula in these cases. He was most interested in Dr. Weitzel's article because of the recognition of tetany before the manifestation of other signs; in other words, in the discovery of latent tetany.

Dr. W. B. Porter said that in some experimental work on dogs that he had witnessed, the parathyroids were removed, following which typical symptoms developed. He does not see why tetany, if produced by gastric disturbances, should subside so rapidly, while that produced in parathyroidectomized animals does not. We must recognize that conditions somewhat similar may be produced by toxins, such as those of the ptomaine group. It appeared to him that the cases reported by Dr. Brown might be those of ptomaine poisoning and not tetany.

Dr. Higgins, in closing the discussion, said the nine classifications enumerated in the paper show a great variety, but medical men have held longer to the idea that the stomach is the cause than to any other. We hear less of gastritis now than formerly, also other stomach diseases. Manifestations of trouble in the stomach occur in other diseases, e. g., tuberculosis, typhoid fever, etc. The stomach may be, likewise, involved in cases of tetany, and because of this it was thought, in years past, that it played an etiologic role, whereas it is no more responsible than in cases of tuberculosis.

As Dr. Porter said, tetany may be brought on by forcing oxalates or precipitating calcium. The thymus may play some role in causation, but tetany may be produced without its involvement. Tetany and rickets are related. It would be interesting to study the connection between the bacteremia of acute infection and calcium balance. It is true that if the parathyroids are removed the calcium balance falls, but other factors will cause this, too.

In the case cited in the paper, the patient said there was soreness, but no pain.

THE PERINEUM—AS IT CONCERNS OBSTETRICS.*

By G. BENTLEY BRYD, M. D., Norfolk, Va.

So much depends upon the integrity of the perineum, that it should be classed as one of the most vital structures involved in the practice of obstetrics, and, therefore, a subject that could hardly be over-thought of. All of us have to contend with lacerated perineums, and I imagine, always shall. Therefore, it is not my idea to minimize the number of lacerations that we may have, but merely to call attention to a few precautionary measures that should be taken in order to avoid some of them; and to the repairs that should be made upon the perineums that have been lacerated.

From their location, tears may be classified as being anterior or posterior, and when left as such result in cystocele or rectocele, as the case may be. All lacerations will come under one of these two classes, their variations being merely ones of degree. Thus, in posterior lacerations, we have those of first degree which are very slight and in which little muscle tissue is involved; those of second degree, where the injury extends to the rectum, but does not disturb its integrity; and those of third degree, in which the sphincter ani is torn and the vagina and rectum are converted into a common canal. Their seriousness is in the order named, while, I am thankful to say, their frequency is conversely so. The size of the head and shoulders, the degree of moulding and the extent of flexion on the part of the child; and the size of the vulva, the elasticity of the parts, the violence of the uterine contractions and the co-operation on the part of the mother, all tend to have a direct bearing upon the result.

Let us now look to some of the ways that

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will help us to minimize the number of lacerations and make them of less moment. The position of the patient is most essential. Personally, I prefer the patient in the dorsal position, with the legs and thighs well flexed. A number of prominent writers use the side position for the actual delivery, but, I must confess, this position seems awkward in my hands. The position of the presenting part is all important, and such presentations as face or brow should be diagnosed at the earliest possible time and converted into a more favorable one; for this, version is probably the safest. A dose of morphia (1-6 to 1-4 grain) or chloral hydrate (10 to 15 grains) late in the stage of dilatation not only helps to relieve the acute-dose of morphia (1-6 to 1-4 grain) or chloral tient in a more reposed mental attitude, and it has appeared to me, that the parts are more easily dilated. After complete dilatation of the os, we usually give ether or nitrous-oxide-oxygen during each pain, and when the head has descended to a point where it stops receding, the patient is completely anesthetized and the delivery made under anesthesia. By this method the delivery is absolutely under our control, and the chances for laceration are thereby decreased materially. It is better to keep the head well flexed until the occiput has passed under the symphysis, then by extending it, the delivery of the head is completed. The extension can be done very easily by placing the right hand (covered by a towel) about midway between the rectum and the coccyx, and pressing upward, during which time the left hand grasps the head and keeps it firmly against the pubic arch. Many times, it is not the delivery of the head, but that of the shoulders that causes the laceration. This can usually be avoided by first allowing the shoulders to rotate and then by drawing the anterior shoulder well under the pubic arch, before attempting to deliver the posterior one.

Taking up forceps delivery; rule number one should be, never to apply them until engagement has taken place, and then never until you have a completely dilated cervix. Having decided to use forceps, go about it deliberately; get everything ready before you begin, including the catheterization of the patient. Anesthetize her completely and examine her thoroughly. In occipito-posterior (and you need not be surprised to find it in any case where the waters have ruptured early in the labor) your best procedure probably is rotation with the forceps, or manually, thus making the position an anterior one, and then reapplying them in the corrected position. Never try to drag the occiput over the perineum, because if you do you can be sure there is going to be a laceration. There is another point that I feel will help to conserve perineums, and one that I do not believe is universally used. It is this: after bringing the head down to the vulval outlet, it is better to remove the forceps and deliver the head as discussed previously. The reason for this is that there is a danger of the blades cutting into or through the perineal body, as they pass over it.

In all cases where we have an after-coming head, our first duty should be to the child, and no measures to save the perineum should be taken at the baby's expense. However, gentleness in our manipulations will be helpful to both child and perineum.

Now there are cases, and lots of them, that will tear in spite of you, and it is this type of case that I wish to call to your especial attention. The perineum has become glistening and its edges are knife-like, the greatest diameter of the presenting part has yet to come in view, and it can be seen that greater dilatation is impossible. If left alone the next pain is likely to result in a lacerated perineum. Just how deep that laceration will be, is a question. In these cases, is it not far better to meet trouble, and make a postero-lateral incision, thereby controlling the location and degree of laceration? This incision is not only more easily repaired, but it is far less likely to become contaminated by the rectum, than the jagged wound of a mid-line tear. The location of the incision is optional; however, I usually make it on the right side, as I find I can take the sutures easier there than on the left.

The question always arises as to the best time to repair a laceration. Is it better to do so immediately, or to wait until the following day? The more cases that I see, the more convinced I am that every patient is a law unto herself, and that we cannot lay down any definite rule to follow. When the patient is in good shape, and when she has not had a particularly tedious labor, I usually repair the laceration immediately after the delivery of the placenta, but whenever I am the least anxious about her general condition, I am content to place sterile gauze over the parts and wait for several hours, at least, before taking the sutures. Much is said about the pressure an-

esthesia of the parts just following the delivery, but I must say, such anesthesia has been very slight in the general run of my patients; consequently, I always anesthetize before attempting to repair the parts. For this nitrous-oxide-oxygen is preferable, but I use ether frequently and with very satisfactory results. A good light is absolutely essential for correct approximation. For sutures, that of some non-absorbable material is best, and twisted silk answers these requirements very well, for it not only will hold, but its texture is such that it is not uncomfortable to the patient. The various varieties of cat-gut are not suited for the suturing of a fresh perineum, and I believe that a great many of the obstetrical perineums that have to be repaired a second time can be attributed to the use of cat-gut sutures. The very nature of the material is such that it is absorbed within a few days, and the great amount of moisture caused by the lochia, certainly does not retard its disintegration. It is true that silk sutures have to be removed, but such had better be the case, than to take a chance on the cat-gut not holding until union has been accomplished. Of course it should be understood that a buried suture should never be of silk and when such sutures are needed I do not hesitate to resort to cat-gut, but even then it is necessary to place one or two non-absorbable ones as a reinforcement.

Just as it is necessary to locate all of our lacerations and to repair them, so is it necessary to care for the perineum afterwards. For a wound to heal, it must be kept clean. Our routine in the care of perineums is about as follows: The patient is catheterized q. 8 to 12 hours until the bowels move (which is usually from 24 to 36 hours after), then she is allowed to void, during which time the nurse is instructed to pour a 1-3000 solution of bichloride over the parts, and to thoroughly bathe off the vulva afterwards with the same strength solution, care being taken to wipe from before, backward, and never use the same sponge twice. There is no particular rule for giving douches, however, they can be given about the fifth day, and when they are, we usually prefer a 1% carbolic or a 1-4000 bichloride solution. The sutures are generally removed on the tenth day, and the patient is allowed to get up in a rolling chair. She is kept from walking until the following day, and is instructed to "take things easy for the first month," avoiding particularly the heavier household duties.

It should be our aim, in every instance, to leave the mother in as nearly perfect physical condition as possible, and if treated along the above lines, there is no reason why, for all practical purposes, the perineum should not perform its function as well after the confinement as it did before.

OLD AGE.*

By ROBERT H. GARTHRIGHT, M. D., Vinton, Va.

All organized objects, animate and inanimate, work, rest and die.

The forces at work in the earth keep it alive and fit for the development and preservation of the various forms of life on its surface.

For the prolongation of existence, action is necessary. Stagnation, or complete and continuous inaction, means premature death.

The globe on which we live, though always moving, has its periods of special activity, when the surface, under the stimulating influences of sun and rain, becomes reanimated and productive. At times its pent up energy is given out by quakes and volcanic eruptions. Wind storms in the spring bend the tree tops and loosen the ground so that their roots penetrate deep into the soil, and the body and branches receive sustenance. The ocean is kept sanitary by salines, diffused by the tossing waves. In winter the rest time comes to the earth, and some day the elements composing this planet will "melt with fervent heat," when "the earth also and the works that are therein shall be burned up."

Man is of the earth; from it he comes and back into its bosom he falls and crumbles into dust. He lives and moves, and rests and dies.

The normal child at birth possesses all the qualities necessary for physical and mental development, and for attaining old age. His training should begin very early, for his capacity to receive and retain facts during the first five or six years of his life surpasses that of any other life period. When he is old enough to reason and decides to get the best things out of life, naturally he will seek information concerning the best methods of caring for his body. Physical and mental

*Read at Roanoke Academy of Medicine, January 5, 1920.

health require periods of action and periods of inaction.

The theory that man begins to die the moment he is ushered into existence, seems to be true. The process of growth is continuously attended by a process of waste. Cells grow and build up the body, and cells decay. During the period of the body's development, evidences of the decay of cells are hardly noticeable, but as soon as maturity arrives, the decline gradually shows itself. The vital centers slowly lose their power, and enough cells are not formed to take the places of those that die. The phagocytes gradually diminish in number, disintegrate, and the whole structure totters and falls. This may happen early, or it may be deferred many years. So far man, in all his investigations and experiments, has found nothing that will prolong his earthly existence except right living.

This consists in the avoidance of contact with disease germs, the observance of sanitation, rest, sleep, recreation, work, a sensible diet, and moderation in all things. He who violates the laws of health in young or middle life, suffers later when he would otherwise not only be healthy, but contented and useful to his community. By abuse of his vitality he becomes superannuated long before he should. The cells of which his organism is composed will crumble fast enough anyway, and internal chemical and physical forces be too weak to replace them all. In other words, when constructive metabolism ceases to equal destructive metabolism, the whole structure will succumb.

Perhaps it is fortunate that the average man is lazy and requires stimulation of some kind to urge him on to the accomplishment of deeds. Protection from heat and cold, hunger, the desire of fame, the diffusion of patriotic, philanthropic and religious principles, the accumulation of wealth, the race after social position, ambition to excel another in his particular calling, and the search for pleasure, are incentives to urge him to do his best.

Rest, food and sleep, we know, are feeders of the nervous system. Prolonged physical or mental strain break down the constitution; therefore a man with extraordinary capacity for the performance of useful tasks should take care not to exceed his capacity. To be everlastingly at work means a breakdown. Thinkers can exercise their powers effectively but a short period of time. Brilliant thoughts do not follow the mental efforts in rapid succession, indefinitely. Words may flow on until page after page is covered, but verbosity does not mean mental power. Hence, the physical and mental workers get the most satisfactory results by taking periods of rest. This should be done regularly and systematically.

A man who had reached his one hundred and third birthday, still hale and hearty, said, "I attribute my long life to the fact that I always made it a rule to rest when I was tired, to sleep when I was sleepy, to eat when I was hungry, and to drink when I was dry." Certainly a laconic and comprehensive and convincing statement.

One of the doctor's most difficult tasks is to convince old people that they cannot eat with the impunity they did before changing from an active to a sedentary mode of living. By strictly observing the laws of health a man's existence is increased, and occasionally he will reach extreme old age, and die what has been termed, "a natural death."

What do the words, "natural death," mean? Those who have seen many persons die are convinced that most deaths are unnatural. The number of human beings who contract diseases to which they succumb long before they attain old age, and even middle age, is very large. If facts and figures were available, doubtless they would show that not one person in many thousands reaches the age he could have reached had his environment and mode of living been in accord with hygienic principles.

Physicians recognize the fact that mental worry acts as an etiological factor in quite a group of diseases, and thus aids to shorten life.

The aged should not lose interest in current events, nor cease to study and keep the brain active and alert, for when they grow careless concerning important transactions, mental and bodily functions quickly cease their operations. As men approach the sunset of life, every effort of mind and body should be moderate, for then we know the resistive powers are losing capacity to endure strain. The heart, the arterial coats and the kidneys must

be carefully and tenderly handled, or they will break suddenly down and bring their owners to death.

The dream of man for long years has been to find a method of prolonging his life indefinitely, and the dreamers are not all dead yet. Perhaps they are stimulated to the pursuit because in the Book of Genesis there is a passage which reads: "Lest he put forth his hand and take also of the tree of life, and eat, and live forever."

Some very crude ideas purporting to be capable of prolonging the existence of the male population have been advanced. It is stated that Hermippus contended that the inhalation of the breath of healthy young women would rejuvenate old men and perceptibly lengthen their stay on earth. The method consisted in abiding long in the same room with a group of girls, and rebreathing the air exhaled from their perfect lungs. He taught that their vitality and vivacity would be absorbed and the breather's vital forces kept at the normal.

The latest suggestion is that the implantation of glands into others, whose secretions are potent factors in sustaining and prolonging life, will cause a return of youth, but the method has not been tested sufficiently to produce striking results. Should it prove successful, the world will need a host of surgeons to meet the requirements of the applicants. The publication of the idea will probably not create the sensation as did that of Dr. Brown Sequard's Elixir Vitae thirty years ago. This elixir, extracted from important and highly prized glands, was tried and found wanting.

It is said that Attilla, who has been freely discussed and rightly abused since the beginning of the recent war, when at the age of 124, married the beautiful and fascinating Ildiko, and a copious hemorrhage ended his life before the dawn of the next morning.

History tells of many men who associated with and came in contact with likely and likable damsels, and who lived to be very old men. David and Solomon are notable examples.

Spencer defines "natural death" as "a want of correspondence between the internal and external relations." "If the organism could adapt itself to every change in its environment, old age and death would be impossible."

It is not often we come in contact with centenarians today. We see quite a number of octogenarians, and a few nonagenarians. There was an old lady in Franklin County dying some years ago, who is said to have been well beyond the century mark, and I saw in Bedford one who was fully one hundred and six. It is a fact that men occasionally do live much longer than a hundred years.

Thomas Parr of England died at the age of one hundred and fifty two years and nine month, performing manual labor up to the age of one hundred and thirty.

H. Jenkins, another Englishman, enjoyed life for one hundred and sixty-nine years. Once, when summoned before a magistrate to testify as to facts occurring one hundred and forty years before, he was accompanied by his two sons, aged respectively, one hundred and one hundred and two.

Kentington, or Saint Mungo, founder of the Glasgow Cathedral, reached the marvelous age of one hundred and eighty-five, and Sir C. Brown states that in the year 1889 the deaths of seventy-six centenarians were reported in England and Wales.

It is surprising that some of the very oldest men have been more or less dissipated and paid little attention to the principles of hygiene. "We must explain it* in general terms," says Howell, "as due to an unusual power of assimilation in the living substance composing the tissues; and, that this tendency to long life is inherited, may be accepted as demonstrated by the statistics of life insurance."

It is characteristic of old persons to become more or less sensitive, and many of them seem to be constantly on the lookout for slights. This is wrong, and shows a weakness which they should strive to overcome. They ought to study to be even tempered and independent and fight against emotional tendencies. This is the day of the prominence of the young man, and he is sometimes inclined to be patronizing to his elders. In the past the aged were looked up to and their opinions respected. Osler did not say a man should be chloroformed when he reaches the age of sixty. Physical endurance and thought power are by no means gone at that period of a man's life, as thousands of living examples testify. There are young men who magnify their accomplishments and capabilities. To such as they

*This tendency to long life.

old Job uttered this stinging sarcasm: "No doubt you are the people, and wisdom will die with you."

Permit this bit of local history: On the Vineyard farm, adjacent to the town of Vinton, until a few years ago stood an unpretentious building, erected early in the nineteenth century. It was the home of Paul Thrasher and his wife, Sally. Mrs. Thrasher was a most remarkable woman—aged one hundred and five years when she died—and passed through many interesting and exciting scenes. Her early life was spent in Maryland and when she came to Roanoke County the Indians had not all departed from its confines. She was one of a number of little girls who strewed flowers in George Washington's pathway when he passed through Georgetown on his way to Philadelphia to take the oath of office as first President of the United States. She saw Lafayette and his army. In her home in this county she entertained the pioneers of Methodism, among whom were Bishops Asbury, McKendree and Andrew. Her home was dubbed "The Methodist Preachers' Hotel." Her birth occurred in the year 1776 when Patrick Henry's eloquence was stirring patriotic favor among the people. She lived through the thrilling political times when Jefferson, John Randolph, Henry Clay, Alexander Hamilton and Aaron Burr were making history. She died on the 5th day of July, 1881, with strong and active mental powers to the last.

We frequently hear it said that old people are lonely because the companions of their youth have passed from the stage of action. Perhaps this would not be so noticeable if they had made it a rule to try to form new friendships as age advanced. They ought to associate with and seek to take a lively interest in the things that concern the young and middle aged, and not dwell too much on the past. This would, in a measure at least, bring them comfort, so that they would not always have the feeling of—

> "— one who treads alone
> Some banquet hall deserted."

True, they will be saddened because of the loss of old friends, but happy in the realization of the interest taken in them by the new.

Let me say, by way of recapitulation, that one who desires to reach a ripe old age should, while young in years, seek information concerning the methods of building and preserving tissues; consider elimination of waste products; the importance of therapy and surgical interference before morbid processes have advanced sufficiently far to permanently damage the structures, and they should take care of the nervous system.

A well preserved old man clings to life, and enjoys it too. It is natural while in a state of physical comfort to want to live. Let him care for his body, keep clean in mind, joyful in spirit, and then when he takes his "chamber in the silent halls of death," he goes—

> "Like one who wraps the drapery of his couch about him,
> And lies down to pleasant dreams."

Sometimes we dream peculiar dreams, and imagine strange things. Will the time come when man's earthly existence will be prolonged until he will live through long centuries, vigorous and active in mind and body? Why not? When we consider whence he came, and what he has done, we ought not to be surprised at other marvelous things that may be brought to light in the future. If he came up from protoplasm to his present complicated organism, why will not the various parts of his mechanism continue to change and improve as the centuries go by?

Some of his organs have diminished in size, and, from non-use, lost their functioning. His claws and his appendix have almost disappeared. He can live with yards of his intestines removed; his big stomach is not necessary for his existence.

When sustaining food is given him over a long period of time in concentrated form, will the lumen of his alimentary canal be reduced in size, leaving no pouches to contain refuse that tends to poison his system and shorten his life?

We are just learning something of the potency of the ductless glands, and other discoveries will be made and other problems solved. Will man, in his investigation eventually "find the tree of life, and eat thereof, and live" till "all the host of heaven shall be dissolved, and the heavens shall be rolled together as a scroll, and all their hosts shall fall down?"

In Writing Advertisers, Please Mention this Journal.

Proceedings of Societies.

Medical Society of Virginia.

At the opening session of the fiftieth annual meeting of the Medical Society of Virginia, held on the evening of October 28, 1919, in the auditorium of the Jefferson Hotel, Richmond, the following reports were read and accepted:

Secretary's Report.

To the Members of the Medical Society of Virginia.

You recall that after the program was issued and all arrangements made for the annual meeting in Richmond, October 22-25, 1918, owing to the Influenza Epidemic, it was decided at a meeting of the Executive Council, to call off the meeting of the Society on account of the conditions then prevailing in every section of the State, and a notice of the indefinite postponement of the meeting was sent to each member.

According to the By-Laws, all Officers, Committees, etc., hold over until their successors are elected; hence, quite a number of these positions will have to be filled at this meeting.

COUNCILORS:

The terms of the following Councillors from the State-at-Large have expired by limitation:

Dr. John Staige Davis, University.

Dr. A. L. Gray, Richmond.

Dr. Frank H. Hancock, Norfolk.

Only two hold over, viz:—

Dr. W. R. Cushing, Dublin, and Dr. B. R. Tucker, Richmond, both of whose terms expire in 1920.

The terms of the Councillors from the following Congressional Districts have expired:

Second District, Dr. R. E. Whitehead, Norfolk, whose term expired in 1918.

Fourth District, Dr. E. L. Kendig, Victoria, whose term expired in 1918.

Fifth District, Dr. S. T. A. Kent, Ingram, whose term expired in 1919.

Sixth District, Dr. J. R. Garrett, Roanoke, whose term expired in 1918.

Seventh District, Dr. H. H. McGuire, Winchester, whose term expired in 1919.

Eighth District, Dr. P. C. Riley, Markham, whose term expired in 1919.

Ninth District, Dr. Isaac Peirce, Tazewell, whose term expired in 1918.

Three of the Congressional Councillors hold over:

First District, Dr. Clarence Porter Jones, Newport News.

Third District, Dr. Alex G. Brown, Jr., Richmond.

Tenth District, Dr. Chas. H. Davidson, Lexington.

The term of each expires in 1920.

The required notice has been sent to each Councillor of the vacancy in his district.

Meetings for filling the vacancies in the Second and Fourth Districts have been called as provided for in the By-Laws.

The vacancies in the other districts will doubtless be filled during the Session of the Society.

The terms of all three of the delegates and their alternates to the American Medical Association expire with this meeting.

Dr. Robert C. Bryan, delegate; and Dr. Chas. V. Carrington, alternate, expired in 1918.

Dr. W. E. Anderson, delegate, and Dr. E. T. Brady, alternate, expires with this meeting.

Dr. Southgate Leigh, delegate; and Dr. Geo. A. Stover, alternate, expires with this meeting.

The following members have died during the last two years, and a necrological report of each one has been published in the Virginia Medical Monthly:—

Drs. W. E. Harwood; W. W. Nelson; R. S. Martin; L. E. Harvie,; W. F. Creasy; D. T. Geil; E. W. Gee; W. B. Pettit; P. P. May; J. A. Meriweather; Roger Martin; Christopher Tompkins; Lucien Lofton; W. P. Mathews; C. L. Carter; A. J. Osborne; J. P. Killian; W. D. Turner; T. N. Broaddus; B. E. Summers; R. F. Davis; H. W. Dew; E. V. Copeland; L. E. Flannagan; J. M. Lewis; W. S. Slicer; W. W. Vest; O. E. Hedrick; Alfred Leigh; T. J. Taylor; R. L. Payne; W. C. Day; T. D. Crothers; J. R. Gildersleeve; E. T. Rucker; J. W. Koontz; F. E. Williams; J. R. Hicks; J. C. Wysor; J. W. Sloan; J. B. Moore; J. F. May; J. W. Lankford; J. C. Gordon; J. A. Robinson; J. M. Smith; R. H. Sims; E. R. Bradley; R. F. Taylor; W. R. Tullos; R. S. Bosher, Jr.; A. G. Crockett; C. P. Bull; O. McL. Smith; C. T. Lewis; C. T. Parrish; B. F. Hopkins; W. T. Moore; W. F. Kabler; G. C. Rodgers; W. L. Spencer; S. C. Bowen; Edward Cross; R. E. Parker; J. W. Price; D. M. Robertson; G. K. Sims; D. Q. Will.—Total 68.

RESIGNED.

Drs. H. Armstrong; J. D. Buchanan; S. H. Burton; S. A. Draper; W. P. Gemmill; W. L. Gills; E. R. Hart; H. H. Levy; C. C. Mann; R. T. McNair; J. C. Phillips; T. B. Smith; C. T. St. Clair; Marmaduke Atkinson; J. C. Burks; J. E. Calhoun; K. M. Ferguson; W. A. Gordon; J. E. Harris; J. L. Kable; H. R. Lickle; C. D. Marchant; A. C. Palmer; Ira M. Smith; G. T. Snead; L. D. Walker.—Total 26.

DROPPED.

Drs. T. D. Armistead; G. T. Hundley; W. H. Lewis; John Mann; E. R. Mulford; R. A. Quick.—Total 6.

The Society has a membership of 1943 members, quite a number of whom are "dead timber," and should be dropped, which would reduce our number to about 1800 members. The By-Laws providing that all members who are in arrears for two years should be dropped has not been rigidly enforced for good and sufficient reasons owing to the conditions that have existed during the past two years. The wisdom of not enforcing it has been demonstrated by having reclaimed 200 members who are now in good standing with their annual dues paid to date. I think, though, that the By-Laws will have to be enforced in a year or more.

There are 78 members whose addresses are unknown, letters addressed to them having been returned, and we are unable to locate them. Some may be still in the Service.

If we can acquire the Virginia Medical Monthly by purchase,—which I think should be done if it is possible to do so, for nothing will strengthen and boost the Society as much as controlling and establishing a Journal as its official organ, provided it is ably edited and managed on business principles—I feel constrained to suggest that I believe a different policy will have to be inaugurated as to delinquent members in their dues. They will have to be required to settle more promptly—say within the fiscal year—and those who fail to do so should be dropped, certainly from the Journal roll if not from the Society's roll.

This, in my judgment, will reduce your membership considerably at first, so it will have to be taken into consideration in adjusting any new policy that may be adopted.

The following County Societies have elected their quota of representatives in the House of Delegates, and sent in their names:

Amelia—Dr. P. T. Southall.
Albemarle—Delegate, Dr. J. C. Flippen.
Alternate, Dr. H. T. Nelson.
Augusta—Delegate, Dr. A. L. Tynes.
Alternate, Dr. R. S. Griffith.
Brunswick—Delegate, Dr. R. H. Manson.
Alternate, Dr. F. N. Mallory.
Buckingham—Delegates, Drs. P. E. Tucker and Perkins Glover.
Alternates, Drs. John Randolph and J. H. Mitchell.
Dinwiddie—Delegate, Dr. F. J. Wright.
Alternate, Dr. G. S. Fultz.
Fairfax—Delegate, Dr. F. M. Brooks.
Alternate, Dr. E. L. Flanagan.
Floyd—Delegate, Dr. M. L. Dalton.
Alternate, Dr. R. T. Akers.
Frederick-Clarke—Delegate, Dr. P. W. Boyd.
Alternate, Dr. L. M. Allen.
Halifax—Delegate, Dr. J. D. Hagood.
Alternate, Dr. H. L. Gunn.
Louisa—Delegate, Dr. F. J. Kellam.
Montgomery—Delegates, Drs. M. B. Linkous and A. M. Showalter.
Alternates, Drs. A. D. Evans and R. F. Williams.
Northampton—Delegate, Dr. G. F. Floyd.
Alternate, Dr. G. W. Holland.
Orange—Delegate, Dr. Lewis Holladay.
Alternate, Dr. A. P. Derby.
Prince Edward—Delegate, Dr. Thos. G. Hardy.
Alternate, Dr. Paulus A. Irving.
Prince William—Delegate, Dr. W. F. Merchant.
Alternate, Dr. W. C. Payne.
Richmond Academy of Medicine and Surgery—Delegates, Drs. M. W. Peyser, C. C. Coleman, A. M. Willis, R. W. Miller, Douglas Vander Hoof, T. W. Murrell and W. L. Peple.
Roanoke Academy of Medicine—Delegates, Drs. I. E. Huff and G. A. L. Kolmer.
Alternates, Drs. E. P. Tompkins and R. H. Garthright.
Shenandoah—Delegate, Dr. F. C. Downey.
Alternate, Dr. D. O. Foley.
Smyth — Delegate, Dr. Z. V. Sherrill.
Alternate, Dr. S. W. Dickinson.
Southampton—Delegate, Dr. W. T. McLemore.
Alternate, Dr. R. H. Cobb.
Warren, Rappahannock and Page—Delegate, Dr. W. L. Hudson.
Warwick—Delegate, Dr. G. J. Williams.
Alternate, Dr. W. S. Snead.

The Publication Committee decided to publish the program for this meeting in the Virginia Medical Monthly and distribute it through the Journal, a copy of which has been sent to each member of the Society, this being a departure from the former plan of publishing it in pamphlet form and sending it to members by mail. The committee regrets the delay in putting it in your hands. Its hope and plan was that it would have been mailed not later than Oct. 15, but circumstances arose which the committee could not control and delayed its issue. We think we present for your consideration a most attractive and interesting program. Owing to the large number of papers, it has been divided into two sections — Medical and Surgical — which will be conducted in separate rooms, to be announced later.

We have never had as large an enrollment despite the changes incident to the conditions and unrest that have prevailed during the past two years. We have not within my recollection closed the year with as large a balance to our credit, viz., $3079.52 — and all bills paid that were presented up to the closing of the books, October 21, 1919.

Now as to the scientific work, if this is not up to the standard of like organizations, this should be attributed to the want of interest of the individual members and not to the fault of the officers of the Society. I get quite a number of programs from other state societies and ours always compares most favorably in my judgment.

The office of Secretary-Treasurer never has been properly equipped to do its most efficient work. It has never had a typewriter or stenographer. Two hundred dollars ($200.00) is the largest sum ever appropriated for clerical assistance. It is to be hoped that the successor in this office will be provided with competent office equipment and especially an efficient stenographer.

In any new organization plan contemplated, pause and calculate the increase in the current expense account it will take to put it into operation. The expense account for the year just closed including salaries, stationery, printing, stamps, etc., was only $1639.67.

I suggest that you consider calmly and in a cold business-like way any new organization plan; do not be carried away or be beguiled by fancy sketches, or flights of oratory and before you depart from the conservative policy of the past (I do not mean that you should continue our present organization), count the cost and provide for all emergencies.

I am only concerned and anxious about the future of this organization and I trust that whatever is finally determined upon, will be for the best interest and welfare of the Medical Society of Virginia.

I have been a member of the Medical Society of Virginia since 1880. This session rounds up my thirty-ninth year of membership and during all these years I have not missed more than two or three meetings. I have been honored by you in many ways far beyond any personal merit. I entertain for the organization an affection and interest second to no one.

I feel that I have had the confidence, respect and good will of your membership during all these years, which sentiment has been entirely and fully reciprocated by me and, whatever action if any, you may take as to a change of policy in your management, I trust that this old Society, so dear to the hearts of those who joined prior to and about the time I did, but few of whom are now living, who sustained her under many adverse and trying conditions will still be conducted on the same high ethical plane that it has occupied through all its past history and, if it is so administered, I feel assured that the spirit of its founders will hover over and abide with it always and guide it to a greater fruition than it ever enjoyed.

Respectfully submitted,
Paulus A. Irving,
Secretary-Treasurer.

Treasurer's Report.

Paulus A. Irving, Treasurer,
In account with
The Medical Society of Virginia.

In view of the postponement of the Society meeting in 1918, report of the receipts and disbursements from December 7, 1917, to November 22, 1918, was made to the Executive Council at a meeting held in Richmond, November 22, 1918, and reported in detail in the December 1918 number of the Virginia Medical Monthly.

This showed in aggregate:—

Dec. 7, 1917 Am't. received from Dr. M. W. Peyser, former treas.--$ 571.47
Collections—Am't. dues collected Jan. 1, 1918—Nov. 20, 1918------- 2706.45

Total amount received ----------$3277.92
Total disbursements Dec. 11,1917—Nov. 14, 1918 ---------- $1873.83

Nov. 22, 1918. Total am't on hand--$1404.09

Paulus A. Irving, Treasurer.
In account with
The Medical Society of Virginia.

1918
Nov. 22. To amount brought forward------$1,404.09
Collections. Dues collected from Dec. 2, 1918-Oct. 21, 1919-------- 3,148.75

Total ----------$4,552.84

DISBURSEMENTS.

1918			
Dec.	1	Ck. No. 1 Mrs. E. G. Ranson, Clerk--$	20.00
	18	Ck. No. 2 J. L. Hart, P. M., stamps	6.00
1919			
Jan.	1	Ck. No. 3 Mrs. E. G. Ranson, clerk.	20.00
	1	Ck. No. 4 Paulus A. Irving, salary as sec'y-treas. to Jan. 1, 1919-------	250.00
	22	Ck. No. 5 Whittet & Shepperson, printing program for 1918 meeting.	40.00
Feb.	1.	Ck. No. 6 Mrs. E. G. Ranson, clerk.	20.00
	1	Ck. No. 7 Dr. A. G. Brown, clerical work, postage, etc----------	55.50
Mch.	3	Ck. No. 8 Mrs. E. G. Ranson, clerk.	20.00
	18	Ck. No. 9 Virginia Medical Monthly, bill to Mch. 15, 1919----------	32.93
	28	Ck. No. 10 Peoples National Bank, Farmville, returned ck. Dr. I. H. Leion ----------	2.00
Apr.	1	Ck. No. 11 Mrs. E. G. Ranson, clerk.	20.00
	2	Ck. No. 12 Paulus A. Irving, salary as sec'y-treas. to April 1, 1919------	250.00
	7	Ck. No. 13 Williams Printing Co., letter heads and envelopes, Ex. Council ----------	11.52
	10	Ck. No. 14 J. L. Hart, P. M., stamps.	25.00
	18	Ck. No. 15 J. L. Hart, P. M., stamps.	12.00
May	1	Ck. No. 16 Mrs. E. G. Ranson, clerk.	20.00
	5	Ck. No. 17 Farmville Herald, printing envelopes, bill heads, etc-------	22.00
	6	Ck. No. 18 J. L. Hart, P. M., stamps	10.00
	23	Ck. No. 19 Virginia Medical Monthly, subscription to same, of Dr. J. D. Rogers sent to me by mistake------	2.00
	23	Ck. No. 20 S. T. Pulliam & Co., premium on treasurer's bond ----------	7.50
June	2	Ck. No. 21 Mrs. E. G. Ranson, clerk.	20.00
	14	Ck. No. 22 Virginia Medical Monthly, bill to date----------	74.62
July	1	Ck. No. 23 Mrs. E. G. Ranson, clerk.	20.00
	1	Ck. No. 24 Paulus A. Irving, salary as sec'y-treas. to July, 1919---------	250.00
	1	Ck. No. 25 J. L. Hart, P. M., stamps.	20.00
Aug.	1	Ck. No. 26 Mrs. E. G. Ranson, clerk.	20.00
	5	Ck. No. 27 J. L. Hart, P. M., stamps.	6.00
	5	Ck. No. 28 J. L. Hart, postal cards for announcements ----------	18.00
	6	Ck. No. 29 Hill Directory Co. addressing letters for Dr. A. G. Brown, Chairman Pub. Com. ----------	6.10
	14	Ck. No. 30 J. L. Hart, P. M., 150 postal cards for announcements -------	1.50
	26	Ck. No. 31 Mrs. E. G. Ranson, postal cards ----------	1.00
Sept.	1	Ck. No. 32 Mrs. E. G. Ranson, clerk.	20.00
Oct.	1	Ck. No. 33 Mrs. E. G. Ranson, clerk.	20.00
	1	Ck. No. 34 Paulus A. Irving, salary sec'y-treas. to Oct., 1919----------	250.00
	4	Ck. No. 35 J. L. Hart, P. M., stamps.	10.00
	8	Ck. No. 36 Dr. F. M. Brooks, Trs., Fairfax Med. Soc., refund dues of Drs. Mackall & Smallwood --------	4.00
	11	Ck. No. 37 J. L. Hart, P. M., stamps.	10.00
	13	Ck. No. 38 Williams Printing Co., bill to date ----------	17.50
	20	Ck. No. 39 J. L. Hart, P. M., stamps	4.00
	20	Ck. No. 40 Farmville Herald, Printing to date ----------	20.50

Total disbursements ---------$1,639.67
Amount carried forward-$1,404.09
Amount of collections -- 3,148.75

Total ----------$4,552.84
Total disbursements ---------- 1,639.67
Oct. 21 Amount on hand--------$2,913.17
27 To amount collected since report was closed------- 166.35 $3,079.52

Of the members indebted to the Society for amounts varying from $6.00 to $22.00, I have been able to re-instate, during the past two years since I have been the Treasurer, two hundred (200) members, some paying the total amount due, most of these discounts being adjusted by compromise. From this source I have collected $1254.15, restoring these members to active membership instead of being forced to drop them, according to the By-Laws. There are still in arrears:

Owing —	$ 6.00	115
	7.00	1
	8.00	64
	9.00	2
	10.00	36
	11.00	1
	12.00	13
	14.00	15
	15.00	1
	16.00	17
	18.00	1
	20.00	2
	22.00	1

I believe quite a number of this list can be reclaimed by continued and persistent activity.

The total indebtedness to the Society is as follows:

Owing —	$ 2.00	309
	4.00	157
	6.00	115
	7.00	1
	8.00	64
	9.00	2
	10.00	36
	11.00	1
	12.00	13
	14.00	15
	15.00	1
	16.00	17
	18.00	1
	20.00	2
	22.00	1

A total of ----------$3585.00

The following County societies collect in whole or in part the annual dues and remit to the State Treasurer:

Augusta, Bath, Brunswick, Campbell (Lynchburg), Dinwiddie (Petersburg), Fairfax, Lunenburg, Nor-

folk (Norfolk and Portsmouth), Northampton, Sussex, Warwick (Newport News).

Prince George was also included in this list prior to the dismantling of Hopewell when its members scattered and the Society disbanded.

My judgment and experience is that the collection of the annual dues should be made by the Treasurer of the State Society and not by the County Treasurers. The State Treasurer is paid to do this work and the County Treasurers are not, consequently, with but few exceptions, it is not done.

The members not being reminded of their indebtedness, fail to pay, get behind in their accounts, and this results in discord and dissatisfaction. Any attempt by the State Treasurer to collect these dues occasionally brings forth sharp and discourteous letters from either the members themselves or the County Treasurers and sometimes both.

The American Medical Association and the Southern Medical Association collect their dues from the individual members. Would you advocate that the annual dues of these organizations be collected by the respective State organizations, without compensation? This method of procedure is very alluring in theory—but it is not practical in fact.

Paulus A. Irving,
Secretary-Treasurer.

Richmond Academy of Medicine and Surgery.

VACCINES IN INFLUENZA.

At the regular meeting of the Richmond Academy of Medicine and Surgery, held January 27, the following report was presented:

Gentlemen.—Your committee appointed at the request of Dr. E. C. Levy, Director of Public Welfare, to "investigate the purity and efficacy of vaccines and the special form to be used in influenza," beg leave to submit the following report:

This committee does not recommend the use of prophylactic influenza vaccines in this epidemic for the following reasons:

1. The microorganism causing influenza (if there be any such) is not known, and so a specific vaccine cannot be made.

2. This present time, with the epidemic on us, is not the time to use vaccines. If used at all, they should have been used two or three weeks ago. There is evidence that vaccination makes the people more susceptible for several days, and so increases the incidence of the disease if given during an epidemic.

3. A careful survey of the available reports on the results of such prophylactic vaccinations is not convincing that any protection has been achieved. Some of these reports seem on their face to show protection, but most of them embody certain errors. For example, the vaccinations are usually done at the height of the epidemic, with the result that the group vaccinated being the ones who have escaped the disease, are more resistant than those who have already succumbed to the disease. The subsequent incidence of the disease among them, is less than in the population in general, and would have been less whether they had been vaccinated or not.

In several instances where large groups were so situated that they could be adequately controlled, no protection whatever was shown.

For example, 461 patients in an epileptic colony in Massachusetts were vaccinated long enough before the disease became prevalent in the institution to justify the drawing of conclusions from their data. Of these, 35.4 per cent. subsequently developed influenza and 17 per cent. died. Of 518 members of the colony not vaccinated, 34.3 per cent. developed influenza and 13.5 per cent. died.

A similar test was made on the naval personnel at Pelham Bay Training Station. Of 554 persons vaccinated, 9 per cent. developed influenza against 5 per cent. of 800 persons not inoculated, giving nearly twice the incidence among those vaccinated.

Some of Rosenow's vaccine was tried in an institution where the conditions could be rigidly controlled. The disease did not appear in the institution until 11 days after the last injection, but 37 per cent. of the vaccinated were attacked against only 28 per cent. of those not vaccinated, and 4.5 per cent. of those vaccinated died against only 3.6 per cent. of those not vaccinated. Here also both incidence and mortality were higher among those vaccinated.

The U. S. Public Health Service has repeatedly sent men to investigate results in regions from which glowing reports were received from the use of stock commercial vaccine. In no case could the claims be verified.

4. Perhaps the most extensive study of this question has been made by Rosenow, and he claims that a vaccine should be made from local strains of the various germs. By the time these cultures could be gotten together, a vaccine made, and properly tested, it certainly would be too late to use in this epidemic.

This unfavorable report is not intended to preclude the use of the regular antipneumococcus vaccine against the regular pneumonias of Types I, II and III.

However, Cecil and Vaughan, in their work at Camp Jackson, found that the antipneumococcus vaccine is less effective in cases of influenza. To use their own words, "influenza causes a marked reduction in resistance to pneumonia even among vaccinated men."

Although this committee is unable to recommend the use of any of these vaccines, yet it recognizes that many practitioners have used prophylactic vaccines apparently with success. These physicians are wholly responsible for such use of vaccines, and it is in no wise the province of this committee to control them in this practice.

Respectfully submitted.

VACCINE COMMITTEE.
E. C. L. MILLER,
E. G. HOPKINS,
W. H. HIGGINS,
WM. S. GORDON,
M. L. ANDERSON.

January 27, 1920.

STATEMENT MADE BY THE CENSORSHIP COMMITTEE OF THE RICHMOND ACADEMY OF MEDICINE AND SURGERY TO ACCOMPANY THE REPORT OF THE VACCINE COMMITTEE.

After some discussion the Academy adopted and ordered published the report of the special committee appointed to investigate the prophylactic and curative value of vaccines in influenza. The work of the committee was very thorough, and its final conclusions were specifically against these vaccines for reasons set forth in the text above.

At the same time, the committee and the Academy as a whole were careful to emphasize the fact that the condemnation referred to so-called anti-influenza vaccine alone, and that it must not be misunderstood as a report in derogation of vaccines in general, some of which, such as typhoid and smallpox, have long ago proven their efficiency, or of the standard anti-pneumococcus vaccine, which, in the presence or absence of an influenza epidemic, has unquestionably been of great value.

Furthermore, the committee recognized that even in the matter of so-called influenza vaccine there might be a considerable divergence of opinion among conscientious members of the Academy, and its report was intended not in any sense to control their professional activities, but merely to submit to them for serious thought the evidence which the committee has accumulated showing that anti-influenza vaccine is (1) worthless, (2) possibly actually harmful.

THE WISE COUNTY, VA., MEDICAL SOCIETY

Met in Norton, January 28. The annual election of officers resulted as follows: President, Dr. J. A. Gilmer, Big Stone Gap; vice-presidents, Drs. Chas. Carr, Inman; D. A. Dunkley, Toms Creek; D. M. Moore, Stonega; secretary, Dr. C. B. Bowyer, Stonega.

It was unanimously decided that the physicians in Wise county would increase their fees seventy-five per cent, effective February 15, due to the high cost of drugs, supplies, etc.

The Society also decided to unanimously support the bill introduced by Representative Chase, that all pupil nurses in hospitals in Virginia must be put on an eight hour basis.

After the business session, a delightful smoker was given which was enjoyed by over twenty members of the Society.

C. B. BOWYER.
Secretary.

SHENANDOAH VALLEY MEDICAL SOCIETY.

At the meeting of the Shenandoah Valley Medical Society, held in Winchester, Va., January 20, Dr. James Bordley, Jr., of Baltimore, was the principal speaker, discussing the subject, "Reconstruction and Its Special Bearing on Problems of the Blinded Soldier." He is prominently identified with the work being done at "Evergreen," near Baltimore, and treated the subject from an educational rather than from a professional angle. Dr. Tom A. Williams, Washington, D. C., spoke on "Sciatic Neuritis."

Drs. William P. McGuire and Emmert C. Stuart, both of Winchester, are president and secretary of the Society, respectively.

LOUISA COUNTY (VA.) MEDICAL SOCIETY.

At the annual meeting of this Society held in October, Dr. F. J. Kellam, Mineral, was elected president, and Dr. H. S. Daniels, Louisa, secretary-treasurer.

WARWICK COUNTY (VA.) MEDICAL SOCIETY.

Officers of this Society, elected at its last annual meeting are; President, Dr. R. A. Davis, and Secretary, Dr. D. W. Draper, both of Newport News.

Virginia Medical Monthly

FOUNDED BY LANDON B. EDWARDS, APRIL, 1874.

PUBLISHED BY PUBLISHING COMMITTEE, MEDICAL SOCIETY OF VIRGINIA.

ALEX. G. BROWN, Jr., M. D., Chairman, Richmond, Va.
BEVERLEY R. TUCKER, M. D. PAUL W. HOWLE, M. D.,
Richmond, Va. Richmond, Va.
EDWIN L. KENDIG, M. D., ALFRED L. GRAY, M. D.,
Victoria, Va. Richmond, Va.

EDITOR
ALEX. G. BROWN, Jr., M. D.
G. H. WINFREY, Business Manager.

All correspondence regarding editorial matters, articles, advertisements, sucscription rates, etc., should be addressed to the Journal.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

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Editorial

Those Pink Bills Again!

We wish to express our appreciation of the help which has been rendered by those who have sent in their annual dues in response to previous requests.

If you have not already paid your dues to the State Society for 1920, will you not get the bill which was put in the January issue, fill in your name and address and send promptly with your check for $4.00 to the Secretary-Treasurer of the Society!

Influenza Prediction Fulfilled.

In the November 8 issue of the *London Lancet* appeared a prediction by Dr. John Brownlee, D. Sc., based on a careful study of past influenza epidemics, that a recurrence of the 1918 influenza epidemic would occur in January or February, 1920.

Doctor Brownlee found that influenza epidemics occurred at intervals of 33 weeks, providing the thirty-third week did not fall between June and December, in which case the recurrence would be expected at the end of 66 weeks or 99 weeks, and therefore he regards the fall epidemic of 1918 as an exception to the rule. In the United States we are now having a recurrence after 66 weeks. It is now exactly 66 weeks since the mortality peak of the 1918 epidemic in Chicago. The same is true for New York City and Washington. In all three of these places influenza is now epidemic.

The periodicity suggests that we may be dealing with infecting organisms which not only have the power to reproduce themselves in a virulent form continously for a long period if susceptible persons are exposed, but which also have the power of developing in cycles of 33 or 66 weeks. The recurrence might be explained on the hypothesis that immunity has lasted 66 weeks, though this hypothesis does not explain the fact already noticed in some families that those attacked in 1918 are now immune, while those not attacked in 1918 are now contracting the disease. The more reasonable explanation seems to be that the present epidemic is due to a definite cyclical regrowth of the infecting organisms from the seed of the former epidemic.

Definite cycles of development are common in the known vegetable and animal world; some plants flower annually, some biennially; the malarial organism may complete its cycle in two or more days; the locust requires in some cases seventeen years. Similarly the organism responsible for our recent pandemic may complete its cycle in 33 weeks or perhaps 66 weeks. This recurrence of the epidemic after 66 weeks certainly strengthens the view that the epidemic of 1889, 1890, 1918 and 1920 all have a common etiology.

Influenza is Mild in Type Throughout Virginia.

While a great number of cases of influenza are being reported daily to the State Board of Health from practically every county and city in Virginia, it is announced that the disease is mild in type and is not developing as a large factor in increasing the death rate. Wythe County alone reports the epidemic in dangerous form, with a number of deaths from pneumonia.

Estimates of the number of cases of the disease throughout the State are largely speculative as, in hundreds of cases, with the experience had in the last epidemic, those taken ill are adopting the precautions and using the remedies prescribed last year, and are not reporting the cases to health authorities or physicians.

Health department officials express the belief, in light of the experience gained in 1918-19, that the fight on the epidemic and the reduction of its spread, as well as the holding of the death rate therefrom at a minimum, must rest largely with the individual citizen.

All manner of precautionary measures may be urged, but it is up to each person to take the preventive measures for himself. He should avoid crowds whenever possible, take plenty of fresh air, go warmly clad and dryshod, eat nourishing food and get plenty of sleep. Bodily resistance will thereby be maintained and many will escape infection. Because of familiarity with the disease, it is hoped that, even should the disease take epidemic form throughout the State and assume a more serious type, the death rate may be kept at a low mark.

Those who contract the disease should take every precaution, staying in the house and taking good care of themselves for at least a fortnight. It is far better to stay in two weeks than to risk pneumonia complications. Thousands fell victims to the last epidemic from sheer failure to avoid exposure. While the present outbreak is mild in type, the State Department of Health urges every community to be prepared for emergency by completing nursing and hospital arrangements and facilities, and it urges that every citizen shall observe every possible precaution, that the fatalities from the disease may be kept at the lowest possible aggregate.

Dr. Hugh S. Cumming Nominated As Surgeon General U. S. P. H. Service.

President Wilson, on January 27, sent to Congress the nomination of Dr. Hugh S. Cumming as surgeon-general of the U. S. Public Health Service, to succeed Dr. Rupert Blue, whose term of office shortly expires by limitation. This is a richly deserved honor and one of which Virginians are justly proud as Dr. Cumming has admirably filled all the duties to which he has been assigned.

Dr. Cumming was born in Hampton, Va., a little more than fifty years ago and was graduated in medicine from the University of Virginia in 1893 and from the University College of Medicine, Richmond, in 1894. After this he served as interne at St. Luke's Hospital, Richmond, until he entered the marine hospital service, in New York. He was stationed for a short time in San Francisco from which place he was sent to Yokohama, Japan, where he remained for four years. Returning to the United States, he was quarantine officer at Hampton Roads for four years and then went to Washington to work in the bacteriological department of the service. His present appointment is truly an award for merit.

Loations in Virginia Where Physicians Are Needed.

We give below a list of places where people have written a doctor is needed. We will keep a list of such places on hand to furnish doctors upon request.

Albemarle County, Earleysville Postoffice, communicate with Mrs. B. W. Scribner.

Albemarle County, Proffit Postoffice, communicate with Postmaster.

Albemarle County, Yancey Mills Postoffice, communicate with Mrs. B. W. Apperson.

Albemarle County, Stony Point Postoffice, communicate with S. T. White.

Amherst County, Lowesville Postoffice, communicate with Dr. J B. Woodson.

Amherst County, Pedlar Mills Postoffice, communicate with Mr. Richard Ray.

Amherst County, Stapleton Postoffice, communicate with Joseph Pettyjohn.

Amherst County, Gidsville Postoffice, communicate with Dr. E. Sandidge, Amherst, Va.

Amherst County, Walker Ford Postoffice, communicate with Mrs. J. A. Husson.

Amherst County, Sandidges Postoffice, communicate with W. O. Ware.

Amelia County, Rodophil Postoffice, communicate with E. T. Newby.

Appomattox County, Vera Postoffice, communicate with C. E. Lewis.

Appomattox County, communicate with Mrs. Margaret Marshall, Stapleton, R. F. D. 1, Va.

Appomattox County, Spout Spring Postoffice, communicate with W. T. Steele.

Augusta County, New Hope Postoffice, communicate with W. B. Lindsay.

Augusta County, Parnassus Postoffice, communicate with Postmaster.

Bland County, Phlegar Postoffice, communicate with C. W. Hancock.

Bedford County, Coleman Falls Postoffice, communicate with Mr. W. Ogden.

Bedford County, Hardy Postoffice, communicate with Mrs. M. L. Haynes.

Botetourt County, Buchanan Postoffice, communicate with L. D. Parsons, R. 2, Box 72.

Brunswick County, Valentines Postoffice, communicate with Dr. E. R. Turnbull, Lawrenceville, Va.

Brunswick County, Fitzhugh Postoffice, communicate with G. W. Pearson,

Culpeper County, Raccoon Ford Postoffice, communicate with W. D. Colvin.

Culpeper County, Korea Postoffice, communicate with W. S. McDaniel.

Charlotte County, Charlotte C. H. Postoffice, communicate with Postmaster.

Charlotte County, Phenix Postoffice, communicate with L. H. Apperson.

Charlotte County, Rolling Hill Postoffice, communicate with Mrs. L. H. Hameraly.

Carroll County, Laurel Fork Postoffice, communicate with Mrs. M. L. Branscomb.

Clarke County, Millwood Postoffice, communicate with Dr. McClure Scott.

Campbell County, Gladys Postoffice, communicate with Miss Mary K. Irby.

Campbell County, Leesville Postoffice, communicate with O. L. Updike, Huddleston, Va.

Campbell County, Rustburg Postoffice, communicate with S. C. Goggin.

Caroline County, Point Eastern Postoffice, communicate with Wade Taylor, Aylletts, Va.

Dickenson County, Healy Ridge Postoffice, communicate with J. P. Reedy.

Essex County, Chance Postoffice, communicate with Latane Sale.

Fauquier County, Delaplane Postoffice, communicate with J. C. Iden.

Fauquier County, Morrisville Postoffice, communicate with J. Ford Thompson.

Fauquier County, Gold Vein Postoffice, communicate with C. A. Monroe.

Fauquier County, Rectortown Postoffice, communicate with A. A. Rawlings.

Franklin County, Pen Hook Postoffice, communicate with Dr. G. O. Giles.

Franklin County, Henry Postoffice, communicate with S. W. Thomas.

Franklin County, Wirtz Postoffice, communicate with B. H. Layman.

Franklin County, Endicott Postoffice, communicate with Mrs. R. W. Sims.

Floyd County, Pizarro Postoffice, communicate with H. H. Kelly, Route 1.

Floyd County, Willis Postoffice, communicate with T. F. Webb.

Fluvanna County, Palmyra Postoffice, communicate with A. R. Gray.

Fluvanna County, Fork Union Postoffice, communicate with Dr. G. W. Parrott.

Fairfax County, Lorton Postoffice, communicate with Jas. Plackett, P. M.

Fairfax County, Fairfax Postoffice, communicate with Thos. A. Burns.

Fairfax County, Clifton Station Postoffice communicate with J. T. DeBell, R. F. D. No. 1.

Fairfax County, Accotink Postoffice, communicate with J. W. Cox.

Grayson County, Comers Rocks Postoffice, communicate with C. W. Cornett.

Grayson County, Spring Valley Postoffice, communicate with T. C. Funk.

Grayson County, Troutdale Postoffice, communicate with Mrs. J. F. Greear.

Greene County, Stanardsville Postoffice, communicate with Dr. N. B. Davis.

Greene County, Ruckersville Postoffice, communicate with Thos. C. Herndon.

Giles County, Staffordsville Postoffice, communicate with E. E. Martin.

Giles County, Poplar Hill Postoffice, communicate with W. B. King.

Goochland County, Tabscott Postoffice, communicate with W. H. Bowles.

Goochland County, Irwin Postoffice, communicate with Dr. Joseph Anderson.

Halifax County, Alton Postoffice, communicate with F. M. Sibley, Turbeville, Va.

Halifax County, Delilah Postoffice, communicate with F. M. Sibley, Turbeville, Va.

Halifax County, Denniston Postoffice, communicate with F. M. Sibley, Turbeville, Va.

Halifax County, Crystal Hill Postoffice, communicate with G. L. Palmer.

Halifax County, Lennig Postoffice, communicate with W. A. Hunt.

Halifax County, Clover Postoffice, communicate with Dr. R. H. Fuller.

Halifax County, Meadville Postoffice, communicate with J. W. Glass.

Hanover County, Beaver Dam Postoffice, communicate with J. C. Moore, Route No. 4.

Henry County, Spencer Postoffice, communicate with Dr. C. W. Thomas.

Henry County, Martinsville Postoffice, communicate with T. D. Digges.

Highland County, Doe Hill Postoffice, communicate with Dr. H. H. Jones.

Highland County, McDowell Postoffice, communicate with Dr. W. R. Siron.

King and Queen County, Cologne Postoffice, communicate with Postmaster.

King and Queen County, Gressitt Postoffice, communicate with H. B. Gayle.

King and Queen County, Hockley Postoffice, communicate with W. R. and H. C. Moore.

King William County, Aylletts Postoffice, communicate with Dr. J. B. Moore.

Lunenburg County, Dundas Postoffice, communicate with R. L. Hite.

Lunenburg County, Kenbridge Postoffice, communicate with R. L. Hite.

Lancaster County, Ottoman Postoffice, communicate with Dr. W. F. Lewis, Morattico, Va.

Loudoun County, Lucketts Postoffice, communicate with Dr. H. P. Thompson.

Loudoun County, Arcola Postoffice, communicate with Dr. Fred Hutchinson.

Lee County, Jonesville Postoffice, communicate with W. E. Neff.

Madison County, Peoria Postoffice, communicate with Ernest Hudson.

Madison County, Twyman's Mill Postoffice, communicate with Dr. W. L. Early.

Madison County, Wolftown Postoffice, communicate with J. G. Jackson.

Montgomery County, Vicar Switch Postoffice, communicate with Mr. H. Harmon.

Montgomery County, Blacksburg Postoffice, communicate with J. P. McKenna, R. F. D. No. 2.

Montgomery County, Otey Postoffice, communicate with Miss E. Sisson.

Montgomery County, Blackburg Postoffice, communicate with L. J. McDonald, R. 1.

Mecklenburg County, Palmer Springs Postoffice, communicate with Dr. W. C. Harmon.

New Kent County, Providence Forge Postoffice, communicate with Dr. J. R. Parker.

Northumberland County, Wicomico Church Postoffice, communicate with Dr. T. W. Christopher.

Northumberland County, Fair Port Postoffice, communicate with Dr. R. E. Booker, Lottsburg, Va.

Northumberland County, Burgess Store Postoffice, communicate with Dr. L. E. Cockrell, Reedville, Va.

Nelson County, Montebello Postoffice, communicate with T. C. Bradley.

Nelson County, Norwood Postoffice, communicate with Dr. P. Harris, Scottsville, Va.

Nelson County, Nash Postoffice, communicate with H. R. Fitzgerald.

Nelson County, Midway Mills Postoffice, communicate with Mrs. Emma S. Glover.

Norfolk County, Hickory Postoffice, communicate with G. W. Eason.

Orange County, Eheart Postoffice, communicate with Dr. E. D. Davis, Stanardsville, Va.

Prince William County, Brentville Postoffice, communicate with Mrs. W. Bowman, Bristow, Va.

Patrick Country, Claudville Postoffice, communicate with W. M. Webb.

Patrick County, Stella Postoffice, communicate with B. W. Via.

Patrick County, Critz Postoffice, communicate with Dr. W. King Via.

Patrick County, Meadows of Dan Postoffice, communicate with Dr. E. L. Branscome, Galax, Va.

Patrick County, Elamsville Postoffice, communicate with W. C. Hooker.

Patrick County, Nettle Ridge Postoffice, communicate with Elder L. T. Tucker.

Patrick County, Dan River District Postoffice, communicate with Rev. W. S. Epperson, Brim. N. C.

Pittsylvania County, Rondo Postoffice, communicate with C. W. Blair, Chatham, Va.

Pittsylvania County, Whittles Depot Postoffice, communicate with J. R. Yeatts, R. F. D.

Page County, Alma Postoffice, communicate with Dr. W. A. Koontz, Grove Hill, Va.

Rappahannock County, Amissville Postoffice, communicate with L. E. Hackley.

Rockingham County, Dovesville Postoffice, comnicate with L. P. Souden, Local Reg.

Rockingham County, Rockingham Postoffice, communicate with Dr. C. E. Conger.

Rockridge County, Fairfield Postoffice, communicate with J. G. Alexander.

Rockridge County, Glasgow Postoffice, communicate with Mrs. Brownlee Barger.

Rockbridge County, Natural Bridge Sta. Postoffice, communicate with J. H. Stoner.

Roanoke County, Roanoke Postoffice, communicate with Dr. B. Hales, R. F. D.

Richmond County, Newland Postoffice, communicate with John R. Campbell.

Russell County, Swords Creek Postoffice, communicate with W. H. Call.

Southampton County, Ivor Postoffice, communicate with R. D. Crocker.

Scott County, Hortons Summit Postoffice, communicate with Dr. R. F. Lyon.

Scott County, Hiltons Postoffice, communicate with Clare V. Shelton, P. M.

Scott County, Fairview Postoffice, communicate with F. A. Robinette.

Scott County, Clinchport Postoffice, communicate with I. M. Carter.

Shenandoah County, New Market Postoffice, communicate with Miss Martha Henkel.

Smyth County, Chatham Hill Postoffice, communicate with H. E. Campbell.

Tazewell County, Tazewell Postoffice, communicate with Dr. P. D. Johnston.

Shenandoah County, Conicville Postoffice, communicate with J. W. McQuay.

Shenandoah County, Lebanon Church Postoffice, communicate with A. E. Robinson.

Wise County, Blackwood Postoffice, communicate with Dr. W. N. Botts.

Wise County, Inman Postoffice, communicate with W. M. Patterson.

Washington County, Greendale Postoffice, communicate with Dr. W. H. Teeter, Bristol, Va.

Washington County, Wyndale Postoffice, communicate with Rev. J. E. Guthrie.

York County, Poquoson Postoffice, communicate with Dr. S. G. Cook.

York County, Grafton Postoffice, communicate with Mrs. Eddie Burcher.

Pege, West Virginia, communicate with Postmaster.

Sweet Springs, W. Va., communicate with Mrs C. B. Woodville.

Pinetown, N. C., communicate with Wm. Cooper.

Principal Causes of Death.

The Census Bureau's annual compilation of mortality statistics for the death registration area in continental United States, shows 1,471,367 deaths as having occurred in 1918, representing a rate of 18.0 per 1,000 population, the highest rate on record in the Census Bureau—due to the influenza pandemic. Of the total deaths, 477,996, or over 32 per cent. were due to influenza and pneumonia, 380,996 having occurred in the last four months of the year during the influenza pandemic.

The next most important causes of death were organic diseases of the heart, tuberculosis (all forms), acute nephritis and Bright's disease, and cancer, which together were responsible for 391,391 deaths, or nearly 27 per cent of the total number.

There was a slight increase over the two previous years in the death rate from tuberculosis, though this shows a good reduction since 1904.

Typhoid fever has shown a remarkable reduction since 1900, which fact demonstrates in a striking manner the efficacy of improved sanitation and of the modern method of prevention—the use of the anti-typhoid vaccine.

Deaths due to external causes of all kinds—accidental, suicidal and homicidal—numbered 82,349 in 1918, corresponding to a rate of 100.6 per 100,000 population. This is a noticeable decrease from the 1917 rate. The greatest number of deaths charged to any one accidental cause is shown for falls.

The rate for deaths from automobile accidents and injuries has risen rapidly from year to year, which strongly suggests the need for better traffic regulations and better enforcement of those we now have.

The number of suicides reported for 1918 was 9,937, or 12.1 per 100,000, the rate being the lowest shown for any year since 1903.

The death registration area in 1918 was for a total estimated population of 81,868,104, or 77.8 per cent of the estimated population of the whole United States.

Objects to Kissing Bible in Court.

Dr. Thomas S. Hening, of Jefferson, Va., a practising physician who represents the sixteenth senatorial district in the General Assembly, is patron of Senate Bill No. 43, "to prohibit any officer in administering an oath from requiring or requesting the person taking the oath to kiss the Holy Bible, or any book or books thereof." This bill has created much discussion and it is stated that it will meet with strong opposition in the lower branch should it be passed by the Senate.

Dr. Hening stated that his bill is backed by the State Board of Health as a sanitary measure. In his practice he declares that he has known loathsome diseases to be transmitted by

the promiscuous kissing of Bibles in court. He personally has scruples also about swearing criminals and others on the Bible, considering it a species of sacrilege.

Health Talks Before Legislature.

Dr. T. B. Leonard, of this city, who has been connected with public health work for sometime, on the evening of January 30, gave a talk on "Preventive Medicine" before members of the General Assembly, illustrating his remarks with moving pictures.

Dr. W. A. Brumfield, director of social hygiene in Virginia, also gave an account of his work.

Dr. Benj. H. B. Hubbard

Has been elected president of the People's Bank of Whitestone, Va., for which a charter has recently been granted.

Another Health Officer for Richmond.

Dr. E. C. Levy, Director of Public Welfare of this city, has announced the appointment of Dr. C. C. Hudson as health officer of Richmond. He will assume his new duties about February 15, when he will take up a portion of the work now under the direction of Dr. P. M. Chichester. The securing of an additional officer to meet the increasing needs of the department has been contemplated for several months.

Dr. Hudson formerly made his home in this city, having been medical inspector of Richmond from 1910 to 1913, at which time he accepted the position as health officer of Danville, Va. In 1918 he became health officer of Charlotte, N. C., and is returning to Richmond from the last named place.

Dr. and Mrs. Charles C. Tennant,

Of Charlottesville, Va., visited relatives in this city recently.

Dr. J. R. Blair,

Of this city, has been appointed a member of the Inter-City Relations Committee, of the Kiwanis Club of Richmond.

Dr. Don Preston Peters,

Late of Baltimore, Md., and an alumnus of the University of Virginia, expected to open a hospital in Lynchburg, Va., about the first of February. The former residence of C. H. Heald, in Church Street, has been enlarged and re-arranged so as to provide hospital accommodations for fifteen patients.

The Tri-State Medical Association

Of the Carolinas and Virginia is meeting in Charlotte, N. C., February 18 and 19, under the presidency of Dr. R. C. Bryan, of Richmond. A good time as well as an interesting meeting is anticipated by all expecting to attend, as North Carolina hospitality is familiar to the doctors in this section.

The Rhode Island Medical Journal,

Which was suspended in 1918, because the publishers were called abroad in the service, resumed publication with the January issue. Dr. W. A. Risk, Providence, is manager. We are glad to welcome this journal back in the publication field and wish for it much success.

Medical Meetings to be Held in Chicago.

The annual Congress on Medical Education and Licensure, held under the auspices of the Council on Medical Education of the A. M. A., the Federation of State Medical Boards of the United States and the Association of American Medical Colleges, will be held in Congress Hotel, Chicago, March 1, 2 and 3, 1920.

The day following this, March 4, will be held the annual conference on Public Health and Legislation, which is called by the Council on Health and Public Instruction of the American Medical Association. This meeting will be held in the Auditorium Hotel and will have morning and afternoon sessions. Dr. Victor C. Vaughan, Ann Arbor, Mich., is chairman of this council, and Dr. Frederick R. Green, 535 North Dearborn Street, Chicago, is secretary.

"Sunbeams,"

The snappy, cheerful little magazine published at Catawba, has been declared the official organ of the Virginia Tuberculosis Association. It is edited by Tazewell H. Lamb, now a patient at Catawba, who is considered one of Virginia's best newspaper man in recent years.

Dr. D. L. Elder,

Hopewell, Va., with a party of friends, motored to Richmond for a short visit the latter part of January.

Tuberculosis Clinics in Warren County.

Tuberculosis clinics held in Warren county, Virginia, for a week in January, were largely attended by white and colored and by people representing practiaelly every rank, profession and trade. The interest manifested was intelligent and keen but it was a regret to

those in charge that they were unable to examine all who applied. The examining physicians were Dr. Dean B. Cole, medical director of the Virginia T. B. Association, Dr. Walter C. Klotz, medical superintendent of Blue Ridge Sanatorium, and Dr. Giles B. Cooke, of Front Royal, formerly one of the State examining physicians for admission of patients to Catawba Sanatorium.

At the close of the clinic, the local doctors held a doctors' clinic at Front Royal, at which the examining physicians were present. The problem of tuberculosis was discussed and special points about interesting cases examined at the clinic were brought out.

Dispensary of Medical College of Virginia.

The annual report of the Dispensary of the Medical College of Virginia, as handed in by Dr. Howard Urbach, superintendent of the Dispensary, shows that a larger amount of work was done there during 1919 than previously. The total number of patients treated was 15,201 or an average of 50.1 a day for 1919 against 39.4 a day in 1918.

The Dispensary now has a staff of 46 physicians and surgeons who are specialists or specializing in their particular line of work. Since September 23, patients have been paying fees which, to the end of 1919, totaled $779.94. This amount with the appropriation made by the city of Richmond and the State orthopedic fund for X-ray made total receipts $1,591.44; total disbursements were $8,963.01, making a net cost to the College of $7,371.57. The work done by the Social Service Department of the Dispensary also showed a marked increase in demands upon the Social Service worker over 1918.

Traveling Exhibition on Social Hygiene.

As a part of a nation-wide health campaign, the Red Cross has donated $10,000 to the American Social Hygiene Association to aid in establishing a traveling exhibition on social hygiene, which will illustrate a constructive method of dealing with the control of social diseases. The first demonstration will be held in North Carolina.

American Medical Association Meeting.

This year, the American Medical Association departs from its customary time of meeting in June to hold its annual meeting in New Orleans, La., April 27 to 30, before the advent of the very hot season. This attractive Southern city is planning very unique and delightful forms of entertainment and a large attendance is expected. Those in charge of preparations are asking that Louisianians make arrangements for rooms in private homes and boarding places, leaving hotel accommodations, as far as practicable, for out-of-state guests.

It has been suggested that physicians along the Atlantic seaboard who expect to attend might charter steamers and arrange boat parties, which should make the trip a pleasant and restful one. These boats when docked at New Orleans might also provide comfortable accommodations while in New Orleans.

Water Trip to New Orleans for A. M. A. Meeting.

As an attraction for those who expect to attend the meeting of the American Medical Association in New Orleans, the latter part of April, a trip is being planned to go by boat from Baltimore and Washington, stopping at Old Point and Norfolk to take on passengers from this section. Probably a stop may also be made at Charleston, S. C., for passengers. The plan is to start in time to reach New Orleans by the morning of April the 27th. A twelve hour stop will be made at Havana (going and returning) so as to give the party time to see this interesting city and enjoy its tropical beauty. The round trip, including attendance upon the meeting, should take about two weeks and the expense will be just about the same as the railroad fare plus meals and sleeper would be. Passengers will be allowed to retain their state rooms and it is possible that breakfast will be served on the boat while at New Orleans.

Inquires about this trip have been received from Iowa, Wisconsin, Illinois, Ohio, Pennsylvania and New Jersey. If interested, communicate at once with Dr. Ira J. Haynes, Box 24, Richmond, Va.

Commission to Pass on Merging of Medical Schools.

Authorities of the University of Virginia and of the Medical College of Virginia have endorsed the plan to appoint a commission of seven to pass on the merging of the two medical schools in Virginia. Of this commission, three will be appointed by the Speaker of the House, two by the President of the Senate, and two by the Governor. Those appointed by the Governor are to be recommended to him by the

boards of visitors of the two institutions and are to be members of the faculties of the two schools.

Dr. and Mrs. O. L. Powell

Have recently returned to their home in Onancock, Va., after a trip to New York.

Dr. R. H. Fuller,

Clover, Va., was a recent visitor to Richmond.

Dr. A. S. Hudson,

West Point, Va., who came to a Richmond hospital for treatment for a fall he recently had, is now much improved.

Addition to Elizabeth Buxton Hospital.

A nurses' home is being built for the Elizabeth Buxton Hospital, Newport News, Va., and it is expected it will be ready for occupancy about the first of April.

Dr. Francis R. Hagner

Was elected president of the Medical Society of the District of Columbia for the year 1920, at its annual meeting in December.

Army Trained Physiotherapists Wanted.

The U. S. Public Health Service wishes to have the names and addresses of physicians in this district who are trained in physiotherapy and have offices equipped with personnel and apparatus necessary for this work, in order that consultants may be selected, one in each center, to whom beneficiaries of the service requiring this form of treatment may be referred.

Men who have had experience in Physiotherapy Departments of the Army hospitals will be given preference. The minimum compensation on a part-time salary basis that will be acceptable to these men is to be stated.

Men trained and equipped for this work should advise J. G. Townsend, P. A. Surgeon, U. S. Public Health Service, Supervisor of the Fourth District, Washington, D. C.

Vaccination for Influenza.

Much is being said pro and con the subject of vaccination against influenza. A report on this subject appears in this issue from the Richmond Academy of Medicine and Surgery.

In Paris, where influenza has not yet been very general, vaccination is being adopted as a precautionary measure. The most common vaccine being used is that of Dr. Dujardin Beaumetz, of the Pasteur Institute. This vaccine contains associated microbes of streptococcus, pneumococcus and Pfeiffer's bacillus. Experiments have shown that those who are taken with illness after having been inoculated escape the worst consequences. The vaccine is of no use for those already ill. In those a different serum is used for each complication, and this year a very active serum is being used in pneumonia cases, which gives better results than were obtained last year.

Free Clinics in Maine for Treatment of Venereal Disease.

Five free clinics for such persons as are unable to pay for treatment but are suffering from venereal disease have already been established in Maine. Two more are nearly ready to be opened and several more are in prospect. Good results have been obtained in some communities where police and health board work are combined and free treatment offered. According to the Health Department, physicians generally are awakening to the value of the police powers of the Health Department in suppressing the use of the so-called patent or proprietary remedies.

Nutritive Values of Foods to be Investigated.

The National Research Council has formed a special committee on food and nutrition problems and, as soon as funds can be obtained for the support of its researches, will make certain specific investigations already formulated by individual committee members and subcommittees. These will include studies of the comparative food values of meat and milk and of the conditions of production of these foods in the United States, together with the whole problem of animal nutrition; the food conditions in hospitals, asylums and similar institutions; the nutritional standards of infancy and adolescence; the formation of a national institute of nutrition, and other problems of similarly large and nationally important character.

Dr. Henry S. Stern,

A former medical inspector with the Health Department of Richmond, was appointed acting health officer during the recent illness of Dr. P. M. Chichester.

Dr. J. N. Elder

Was elected post commander of the Hopewell, Va., Post of the American Legion, at its meeting held last month.

Birth Rates In Paris Still Low.

According to reports from Paris, traditions that the birth rate of a country always increases after a war have proved fallacious in

that city. It is true that there have been more births in Paris in recent months, but this is due to the fact that the population of Paris has been increased by 500,000 in the last year. The number of births per thousand of population is lower at present than it was before the outbreak of the war in 1914. The poorer quarters of the city show a higher birth rate than the section containing the homes of the wealthier classes.

Dr. E. J. Nixon,

Of Petersburg, Va., was the victim of an assault by a young white man the middle of January and as a result suffered a number of bruises.

Scale of Prices Fixed for Druggists in Georgia.

A scale of prices to be charged by druggists of Georgia for prescriptions was recently agreed upon by the fair price commissioner of Georgia and chairman of the Fulton county fair price committee, in conference with representatives of the retail drug trade. They became effective in Atlanta on January 28, and throughout the State on February 1.

According to this arrangement, druggists are allowed 100 per cent profit on prescriptions made from proprietary medicines where only counting or measuring from one container to another is involved; 30 cents extra is allowed where compounding is necessary, a 3 cent charge is allowed for container and, where delivery is made outside the store, 15 cents extra is permitted.

Dr. J. E. Taylor

Has been appointed city coroner of Danville, Va., to succeed Dr. E. Howe Miller, recently resigned.

Dr. Taylor who, in his early days was something of a baseball player, is also president of the Danville Baseball Association.

Aviators Have Eye Strain.

English air service doctors have discovered that expert airmen will occasionally make all manner of mistakes in landing. These accidents are attributed to a particular sort of weariness of eye muscles as well as eye nerves. The eye apparently fails to convey to the brain a proper eye-picture of the ground or other objects. The eye fails very much as the muscles of an untrained athlete. Many exercises for the eye have been designed with a view to remedying this defect.

State Orthopedic Hospital Wanted.

A bill has been introduced in the State Senate calling for the appropriation of $30,000 for the purpose of purchasing a building for the State Orthopedic Hospital for Crippled and Deformed Children. The bill was referred to the Committee on Finance. At the present time the State orthopedic work is being done at Memorial Hospital, this city.

Germ of Lethargic Encephalitis Isolated.

Notice has been received through the Associated Press from Rome, that Professor Maggiora, of Bologna University, is said to have succeeded in isolating the germ of lethargic encephalitis in the blood of patients. He is now reported to be preparing a serum to combat the disease.

Dr. and Mrs. Stuart McGuire,

Of this city, were recent guests of relatives in Alexandria, Va., for a short stay.

Dr. I. Carrington Harrison

Has been appointed one of the jail inspectors of Danville, Va.

Married—

Dr. Abraham I Weinstein, Richmond, and Miss Virginia Elizabeth May, Charleston, S. C., February 1.

Lt. Carl A. Broaddus, medical corps, U. S. N., formerly of Newtown, Va., and a member of the class of '17, Medical College of Virginia, and Miss Virginia C. Henshaw, of Lent, Va., in Washington, D. C., January 15.

Fire In New York Hospital.

A fire, believed due to defective electric wiring, broke out at 2 o'clock in the day on January 27, in the operating room of Lenox Hill Hospital, New York, formerly the German Hospital. Three hundred patients in the hospital were moved to safety and the blaze was quickly extinguished without injury or loss of life. Damage to the building was estimated at $50,000, mostly due to the water.

Post-Graduate Course Given Colored Physicians.

During the last week in January, a post-graduate course in the early diagnosis of tuberculosis was given at Piedmont Sanatorium, Burkeville, Va., for the benefit of the colored doctors of this State. It was the first attempt to give such training in Virginia and, so far as known, in the South. The course was well

attended by a number of the representative colored doctors of the State, the lectures being delivered by the heads of the various Virginia tuberculosis sanatoria.

Dr. J. Garnett Nelson,

Former colonel in the U. S. Medical Corps, was elected commander of the Richmond Chapter of American Officers of the Great War, at its organization meeting held January 30.

The Raleigh (N. C.) Academy of Medicine

Held its fiftieth anniversary dinner at the Yarborough Hotel on Monday evening, February 2, at which time some of the best known doctors in the State were present and gave talks.

Richmond Has Lungmotors.

A couple of lungmotors have been purchased by the city of Richmond for use in emergencies. They have been turned over to the fire department and will be carried by the chief, to be immediately available at every fire, in event there are cases of smoke suffocation, electric shock or other accidents. Later, lungmotors will be gotten for the police department as they are said to be particularly effective in cases of attempted drowning.

Dr. James T. Leftwich

Has been made president of the community chorus of Highland Springs near this city. He has recently located there after practising in West Virginia.

Dr. Lawrence T. Price,

Of this city, who has the military rank of major, was elected president of the First Virginia Regiment at its annual meeting held recently.

Lynchburg Nurses Advance Prices.

Graduate nurses of Lynchburg, Va., have advanced their prices, the local association agreeing upon a schedule of $30 a week, $5 for a single day, and $37 a week for obstetrical cases. The reason given is that they can get higher pay elsewhere.

Dr. Edward S. Cowles,

A prominent nerve specialist of New York, who was formerly of this State, was quite ill with pneumonia during January. Dr. Cowles was a member of the '07 class, University College of Medicine, Richmond.

Dr. J. T. Jarrett,

Portsmouth, Va., it is announced, is moving to Roanoke, Va., with a view to going into business.

Drs. C. W. Eley and W. A. Simpson, who are just returning from Naval service, will take Dr. Jarrett's office and will specialize in urology.

Correction.

In our January isue, the error was made of stating, that Dr. Mary Johnson had been made superintendent of the Virginia Home and Industrial School for Girls at Bon Air, Va. This should have been Dr. Bertha Johnson, of New York City. Before coming to Virginia, Dr. Johnson was Chief of the Division of Child Hygiene of the New Jersey State Board of Health, which place she left in the fall of 1918, and since then, she has been connected with the Federal Children's Bureau.

Dr. W. C. Nunn

Has sold his home in West Point, Va., and expects to move in the spring to his new home in Highland Park, Richmond.

Government Needs Physicians.

The United States Civil Service Commission announces that a large number of physicians are needed for employment in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, and the Panama Canal Service. Both men and women will be admitted to examination, but appointing officers have the legal right to specify the sex desired when requesting the certification of eligibles. Entrance salaries as high as $200 a month are offered, with prospect of promotion in some branches to $250, $300, and higher rates for special positions.

Further information and application blanks may be obtained from the secretary of the U. S. Civil Service Board at Boston, New York, Philadelphia, Atlanta, Cincinnati, Chicago, St. Paul, St. Louis, New Orleans, Seattle or San Francisco, or from the U. S. Civil Service Commission at Washington, D. C.

Income Tax.

As a reminder, have you paid your income tax? If not, this should be filed at the office of the Collector of Internal Revenue for your district before March 15. At least one quarter of the tax must accompany the return. The professional man may make his return on the basis of cash intake and actual expenditures

for the year and there are also a number of deductions allowed.

The National Anesthesia Research Society

Has been launched with the avowed purpose of collecting data and prosecuting original research in the field of medicine. In thus advancing the science of anesthesia, it is the aim of the Society to do all in its power to safeguard not only those to whom anesthetics are administered but also those called upon to administer them. Dr. F. H. McMechan, Avon Lake, Ohio, is chairman of the Research Committee, and T. T. Frankenberg, 16 East Broad Street, Columbus, Ohio, is executive secretary.

Stamerers in Schools to be Treated.

It has been planned to give stammerers among the Richmond school children a chance to be cured of this defect. O H. Enis, a specialist in this line, whose work was reported on most favorably in Buffalo, is to come to Richmond about the first of March to give a ten days' course. There are said to be about 75 children in the Richmond schools who stammer, and these will be divided into two classes to receive treatment.

The U. S. Civil Service Commission,

Washington, D. C., announces an open competitive examination February 24, for assistant director of educational work to fill vacancies in the Division of Venereal Diseases, Public Health Service, at salaries ranging from $1,800 to $4,000 a year. Application should be made at once for form 2118, stating title of the examination desired, to the above Commission, or to the Secretary of the U. S. Civil Service Board, at the customhouse in a number of the larger cities.

Open competitive examinations for physicians to fill vacancies in the Panama Canal Service will be held March 17, at several places in the various States. The entrance salary is $200 a month with chance of promotion. Application should be made at once for form 1312, stating title of examination desired, to the U. S. Civil Service Commission, Washington, or to the Secretary of the U. S. Civil Service Board in any of the larger cities.

Smallpox in Several New Localities.

The need of vaccination against smallpox is again emphasized by the State Health Department, as the disease has this winter made its appearance in a large number of Virginia communities. Early in January, new cases were reported from Rockingham, Bedford, Amherst, Henry and Isle of Wight counties.

Health Examinations and Physical Education in Schools.

A bill providing for universal health examinations and physical education in the schools of the State was introduced in both branches of the General Assembly of Virginia on January 21. This bill is a development of the present West law which it would repeal and replace. It was drawn in response to a general demand for steps towards reducing the alarming number of physically defective school children, as shown by reports of the inspection made under the existing West act. Over half of the children examined during the past year were found physically defective to an extent calling for prompt and thorough action.

The bill included the provisions of the present law concerning health examinations and public health nursing and, in addition, provides for a state supervisor of physical education to co-operate with the teachers in giving suitable hygienic instruction and wholesome physical training to all the school children of Virginia.

Fourteen other States, following the discovery of similar situations among their school children, have already enacted laws along lines similar to these proposed by the present bill.

Federal Aid To Soldiers.

In almost every community in the United States there is a discharged soldier, sailor, marine, or war nurse, suffering from some injury, or ailment, which dates back to service with the fighting forces. Often this injury or ailment has made it hard or impossible for them to fit in where they did formerly. They are handicapped and need help; not charity, but mental and physical reconstruction. In many cases such people unfortunately keep their troubles to themselves. They are reluctant to seek aid or advice, for fear their friends might consider them weak. Possibly you know such a person.

If you do, encourage him to take his troubles to the Government. The War Risk Insurance Bureau and the United States Public Health Service are especially anxious to get in touch with such individuals. The Pub-

lic Health Service has set up a chain of reconstruction bases throughout the country for beneficiaries of the War Risk Bureau. These are not Army hospitals, nor is there Army discipline in connection with them, but rather a system of hospitals similar to the general hospital in large cities except that the treatment is free and goes much further than in the ordinary hospital.

Recreation, vocational training and wholesome entertainment are combined with treatment. While men are being bodily rebuilt they have the opportunity of learning some useful occupation, or pursuing studies. They are taught not only to find themselves, but to better their condition. The environment is as homelike as it is possible to make it.

A great many men who went into the Army have developed tuberculosis and other diseases requiring special treatment. The Public Health Service has separate hospitals and sanatoriums for these patients, where they may get the best treatment known to medical science.

A large number of soldiers are not yet aware that the Government offers them free treatment. Please tell them. For further information, communicate with P. A. Surg. J. G. Townsend, U. S. Public Health Service, 15th St. and Ohio Ave., N. W., Washington, D. C., officer in charge of the Fourth District, which includes District of Columbia, Maryland, Virginia and West Virginia.

Location Wanted.

Physician desires location. Would buy out retiring physician. State full particulars. For information, address "Location," care the Virginia Medical Monthly.

Obituary Record.

Dr. Peter Winston,

Prominent in State, civic and political affairs, died at his home in Farmville, Va., January 30, after an illness of more than three months. He was 84 years of age. Dr. Winston was a native of Chesterfield county, this State, and studied medicine at New York University Medical College, from which he graduated in 1860. He practised medicine in Farmville for about 60 years. Dr. Winston was the first Democratic mayor of Farmville, a useful member of the State legislature from Prince Edward county for three terms and, at the time of his death, was a member of the State Board of Charities and Correction and of the Board of Trustees of Hampden-Sidney College. He is survived by his widow and three children.

Resolutions on Death of Dr. Holloway.

At a meeting of the Caroline county, Va., Medical Society held at Bowling Green, Va., October, 1919, the following resolutions were adopted:

WHEREAS it has pleased God to take from us our brother, Dr. R. G. Holloway, Vice-President of this Society, whose death occurred on the 13th day of October, 1919, and whereas we deem it proper that we should give some expression of the feeling of our hearts, therefore, be it

RESOLVED, That in the death of Dr. Holloway our Society has lost one of its most loyal and useful members, that the profession in our State has lost a man who was every inch a hero, and one who atways upheld the dignity of our profession and exemplified its tenets and traditions in his life and character.

RESOLVED, That a copy of these resolutions be spread upon the minutes of our Society, that a copy be sent to his family and a copy to the Virginia Medical Monthly for publication.

By order of the Society.

C. S. WEBB, M. D.,
President.

CLARENCE CAMPBELL, M. D.,
Secretary.

Dr. Britton D. Evans,

Medical director of the N. J. State Hospital at Morris Plains, died at his home in Greystone Park, N. J., January 14. He was sixty-one years of age and a graduate of the College of Physicians and Surgeons, Baltimore, in 1885. Dr. Evans was one of the noted alienists in the Harry Thaw case.

Dr. Milton A. Leonard,

Of Manor House near Shadwell, Va., died the middle of January at New Bedford, Mass., to which place he and his wife had gone on a visit. He graduated from the New York University Medical College in 1879, and for a number of years practised in New Bedford, Mass., before moving to this State. He was sixty-two years of age.

Dr. Charles B. Young,

A well known homeopathic physician of Lynchburg, Va., died January 13, after an illness of about two years following a stroke of apoplexy. He was born in Union county, Pennsylvania, in 1851, and graduated from the Hahnemann College of Philadelphia, in 1881. He had practised in Lynchburg for nearly forty years.

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Original Communications.

ABRUPTIO PLACENTAE; REPORT OF A CASE OF COMPLETE SEPARATION BEFORE LABOR. RECOVERY FOLLOWED A CESAREAN SECTION.*

By VIRGINIUS HARRISON, M. D., Richmond, Va.

Having heard of two and possibly three deaths in this city from the premature separation of a normally situated placenta, I was stimulated to review the subject with the hope of being the means of saving some woman's life, and to prepare a more impressive lecture for my students on this very fatal complication of pregnancy and labor.

Rigby in 1776 recognized this condition and differentiated it from placenta previa, the former being called "accidental hemorrhage" and the latter, "unavoidable hemorrhage." DeLee has suggested the term " abruptio placentae" to take the place of "the cumbersome, generally used term, Premature Separation of a Normally Situated Placenta." Holmes, of Chicago, gave the name "ablatio placentae" to the same condition for the same reason.

Frequency. DeLee reports twelve cases of the complete variety and thirty-one cases of the partial variety as occurring in fifteen thousand deliveries in the Chicago Lying-in Hospital. Williams, of Johns Hopkins, says "in the last two thousand patients delivered in my service prior to June 1915, seventeen cases of premature separation were noted, but only one example of concealed accidental hemorrhage occurred in a series of fifteen thousand labors." Cragin reports two hundred and twelve cases in twenty-two thousand consecutive deliveries, but only fifty-three had concealed hemorrhage.

Causes. Abruptio placentae may be complete or partial; it may occur during pregnancy or during any stage of labor. The most frequent cause seems to be a toxemia, as in nephritis or eclampsia, albumen being found in seventy-one per cent of the cases; this is not always the cause, however, as is proven by the fact that many cases occurred in which no toxic condition could be demonstrated, and there were other conditions present which were sufficient to explain the separation. Trauma may act as a cause, but some predisposing condition is usually present, even though it may not be demonstrated. During labor a short cord, or one relatively short, by being wrapped around the fetus, may separate the placenta to any degree. Among other things named in the etiology are, the sudden emptying of the uterus of a large quantity of fluid, or of twins, endometritis, multiparity, profound mental shock (?), pendulous abdomen allowing torsion of the uterus, and, I might suggest as an exciting cause, riding in an automobile over rough roads, though this may act only when there is a predisposing condition present, as occurs when we have an abortion following such a ride.

Morse, of Yale University, had a case of myomata with a twisted pedicle, which interfered with the return of blood from the uterus, and on examination of that organ, he found it in the same condition as the one he had removed for placental separation. "With this hint, investigation was begun to determine what are the effects upon the pregnant uterus when the venous flow is blocked." He did this by tying the veins from one horn of the uterus of pregnant rabbits, and produced "very definite and positive results and the same phenomena were observed each time the experiments were repeated. The experimental reproduction of premature separation then has been accomplished by ligating the veins, which conduct the blood from one side of a bicornuate uterus, and the minute resemblance between the experimental lesions and those due to natural causes indicates the existence of identical etiological factors in both cases." It ap-

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

pears, therefore, that the primary lesion following obstruction to the venous outflow is an engorgement of decidual sinuses and hemorrhagic extravasations into the decidua, and that a decidual hematoma inaugurates the separation of the placenta." Morse further states that "the albuminuria which sometimes accompanies placental separation probably is secondary to the disturbance in the uterine circulation and not an indication of a primary nephritic toxemia." I have quoted from Morse's paper as he wrote it, but he at present has not brought forward sufficient proof in his own mind or that of others that it is a very frequent cause. A toxemia still heads the list as the most frequent etiological factor.

Symptoms. The symptoms will depend upon the variety, whether complete or partial; on the time of occurrence, during pregnancy or during labor; on bleeding being external or concealed; somewhat on the cause, and, more than any of these, upon the promptness with which effective treatment is instituted. In mild cases with external bleeding it is apt to be confounded and treated as placenta previa, but, if the hemorrhage is internal or internal and external, the uterus should become larger and much more tense than it was previous to the onset of the condition. Don't rely upon the pulse to indicate how much blood has been lost, as we may have a full bounding or slow pulse when severe loss of blood has occurred, and the patient be in imminent danger. We must not, therefore, wait for the severe pain at the location of the placenta, the acute anemia, the severe shock, due to distention of the uterus, before we try to empty the organ or have a Cesarean section done; if we wait for such symptoms we expect too much of the obstetrician or surgeon.

Some cases are severe from the onset, and the symptoms develop so rapidly that the patient's life is lost before proper treatment can be had. The symptoms of these cases are rapid distention of the uterus, abdomen painful to the touch, but no contractions and relaxation as in normal labor, acute anemia comes on, with the air hunger, sweating, to be followed later by the rapidly failing pulse and death.

If the separation occurs during labor it is more often recognized and by a quick delivery the child can be saved and the uterus made to contract.

During pregnancy a partial separation may occur, only enough to give some little pain at the site of the placenta; this gives no trouble but is recognized by an acute observer as a small clot on the placenta at delivery.

Diagnosis. The diagnosis will be readily made by keeping the symptoms in mind, but it must be differentiated from placenta previa, rupture of the uterus and ectopic pregnancy which has gone beyond mid-term. In placenta previa, we have bleeding from the vagina, that is apparently without cause and without pain, and the condition of the patient will be proportionately severe with the amount of blood lost through the vagina; if only a small amount be lost, the patient will be in much better condition than if she had passed a larger quantity of blood. On the other hand, in abruptio placentae we may have no loss of blood through the vagina but the woman may suffer severe pain and show the shock and anemia to an extreme degree. On vaginal examination in placenta previa, we can detect the placenta at or near the internal os, which will be absent in abruptio placentae. On abdominal palpation in placenta previa, we will find the uterus in its normal position and the parts of the fetus can be outlined; in abruptio placentae the uterus is hard, tense, painful and the outline of the fetus is made out, if at all, with great difficulty. In placenta previa, on auscultation the fetal heart sounds will be heard unless the loss of blood externally has been sufficient to destroy its life or we are dealing with a fetus already dead; auscultation is negative in abruptio placentae as to heart sounds, if much bleeding has taken place.

In rupture of the uterus, we can make out the parts of the fetus outside of the uterus, while the latter will be much smaller and to one side of the child. On vaginal examination, we will detect the empty uterus much smaller than the period of pregnancy would indicate with an enlargement of greater proportion external to this organ.

Ectopic pregnancy beyond mid-term, which has ruptured, by careful pelvic examination will show the small unimpregnated uterus, and by abdominal examination will reveal severe intra-abdominal lesion which will require the abdomen to be opened. This same examination should enable you to recognize other intra-peritoneal ruptures, as appendix, gall-bladder, etc.

Prognosis. The infant mortality is usual-

ly stated to be from eighty-five per cent to ninety-five per cent according to whether the separation occurs during pregnancy or during labor. The maternal mortality for all varieties is placed at about forty per cent, as high as fifty-four per cent in the complete and as low as thirty per cent in the partial variety. Although the literature on this subject is not very extensive and the experience of any one man is very limited, a sufficient number of cases have been studied and reported to show its great importance, its fatality to both mothers and children, and the necessity of prompt, efficient and radical treatment.

Treatment. In the complete or even partial variety of abruptio placentae with much bleeding, the success of any treatment will depend upon the diagnostic ability of the man who first sees the patient, and the promptness with which treatment is instituted. The method of treatment will depend on the condition of the cervix, the multiparity of the woman, the size of the pelvis and of the child, the physical condition of the woman when first seen, the home or hospital surroundings, to say nothing of the ability of the man to do what may be required of him. It seems hardly necessary to state that the patient should be moved to a hospital if possible, as a hysterectomy may have to be done even though a success is made of a vaginal delivery, as post partum hemorrhage may be controlled in no other way.

If these cases are seen early, and we find that the cervix is not effaced and the os is not dilatable, the uterus growing tense, even though a small amount of blood is escaping externally, a timely Cesarean section may save the child and will be almost certain to save the woman, whereas an attempt to deliver the woman through the vagina under these conditions will usually cost both lives, and especially is this true in a primipara. If the cervix is dilatable, and not much bleeding is going on, it is considered good practice to rupture the membranes and allow the uterus to contract, first to help close the vessels and second with the hope of labor coming on and completing the work. It will not do to wait long for labor, as concealed hemorrhage may be taking place. As soon as dilatation takes place the child can be delivered by forceps or manually if urgent symptoms arise.

The difficulty in these cases is to tell how much bleeding is going on in the uterus. If the symptoms of shock and hemorrhage take place as slowly in these cases, as has been shown to take place after delivery, then the pulse and clinical symptoms may be too late to be of any service.

Williams, of Johns Hopkins, in a series of one thousand cases of spontaneous labors, had the amount of blood lost measured and the effect noted. The amount varied from zero to 2400 c.c., giving an average of 343.7 c.c. He observed that "the pulse rate most usually encountered is between 80 and 100, irrespective of whether labor is followed by physiologic bleeding or by actual hemorrhage." These cases showed a hemoglobin test of from thirty-eight to fifty-five, indicating a severe loss from the circulation. We must then empty the uterus as promptly as possible. If the separation takes place during labor, we can usually complete labor soon enough to save the woman: this must be done as quickly as possible, disregarding the child, which will be lost in the great majority of cases.

If the patient is not seen until she is suffering from severe shock and hemorrhage, so as to be a bad surgical risk, it has been advised to rupture the membranes, pack the vagina tightly with gauze, and put on a tight abdominal binder, so as to push the uterus down against the vaginal pack, give small doses of pituitrin or ergot to encourage labor pains, treat the anemia by the transfusion of blood or horse serum, and hope for the best, though a very large percentage of these severe cases will die under any treatment.

The importance of the subject is that a diagnosis be made early, and that the treatment be as prompt as aseptic conditions can be arranged. I think I saved the life of the following case by an early recognition of its serious possibilities:

Mrs. M. Primipara. White. Married. Aged 26. No miscarriages. Family and personal history negative as far as this case is concerned. She had had a distinct trace of albumen in her urine for several weeks before operation, and had also some edema of the legs; both the albumen and swelling had lessened at the time of her present illness.

About 3 P. M., on July 28, 1919, being in the 35th week of pregnancy, she phoned me that she had come unwell and had the same feeling that she usually had at that time, with

a little freer discharge, no pain, no dizziness nor discomfort other than mentioned above. Thinking that she had placenta previa, I asked her to go immediately to the Memorial Hospital, and not to lose the time it would take for me to see her at her home. I saw her about 4:30 o'clock. On making a vaginal examination, I found the cervix unaffected, the os large enough to insert one finger. The head was presenting and well down in the pelvis. I could detect no evidences of a placenta. There was no bleeding from the vagina at that time. Was in good spirits after riding two miles to the hospital. On examination of the abdomen, I thought I felt labor pains starting. Her temperature was 99.2 degrees; pulse 80, respiration 22. No urgent symptoms being present, I decided to wait a while and see what would happen. About six o'clock I was notified that the patient was bleeding from the vagina. On making an abdominal (no vaginal) examination, I found the uterus much enlarged from what it had been at my last visit (one and a half hours ago), she complained of an indefinite tense, tight feeling; temperature, pulse and respiration the same as before. I changed my diagnosis to abruptio placentae and, as soon as the patient and operating room could be gotten ready, Dr. Stuart McGuire did a Cesarean section. On opening the uterus, Dr. McGuire called attentionto the wall thickness, which is usual in abruptio placentae, for extravasation of blood takes place into the muscularis and separates its fibers at times. It was dark blue in color and bled freely. The placenta was found completely detached and presenting at the opening, with about a pint or more of dark clots and some free blood. The membranes were opened and the child quickly delivered. The rest of the operation was completed without much loss of blood. 1 cc. of pituitrin was administered; an ergotole was given for several days, to control the rather free discharge of blood. These cases are very prone to bleed on account of the extravasation of blood into the muscles of the uterus, so that special care was taken in that respect.

The baby made several feeble attempts at breathing under artificial respiration, which was kept up for thirty minutes, when all hope of life had vanished.

There was nothing observed in the placenta that would throw any light on the case as to its etiology, but I believe it was due to a mild toxemia as a predisposing cause and an automobile ride as an exciting cause. Pus and albumen were found in a catheterized specimen of urine on the second day. The patient made a good recovery and left the hospital on the 25th day after operation.

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401 *North Allen Avenue.*

THE PREVALENCE OF NEGLECTED GYNECOLOGICAL DISORDERS.*

By EDWARD H. RICHARDSON, M. D., F. A. C. S., Baltimore, Md.
Associate in Clinical Gynecology, Medical Department, The Johns Hopkins University.

The relationship of a specialist in any particular domain of clinical medicine or surgery to the profession as a whole is that of reciprocal obligation. On the one hand, it is incumbent upon the worker in a special field to prosecute with diligence and patience his researches, to record his observations and experiences with impartial and unprejudiced exactness and from time to time to report back to his colleagues the fruits of his labors in order that through them humanity may benefit; on the other hand, to an equal degree is the profession obligated, both collectively and individually, to encourage the special workers in every possible way, thereby recognizing that it is chiefly through their continued productivity that our therapeutic assets are expanded in scope and enhanced in value. Broadly speaking, this mutual obligation has been creditably discharged in the past with the gratifying result that medical and surgical specialties have multiplied and developed at a truly remarkable rate. But out of this period of intensive specialization through which we have been passing there have emerged, quite logically and as necessary by-products, at least two changed conditions upon which the wise physician will do well to focus his attention and to ask himself some very searching questions as

*From the Gynecological Department of the Johns Hopkins University and Hospital.

*Read before the Medical Society of Virginia at its fiftieth annual session, Richmond, Va., October 28-31, 1919.

to how he shall best adjust himself to the new order of things.

One of these changes is a fundamental one, being nothing less than the tacit admission of the profession within recent years that individually our cortical limitations have been transcended and that none of us is able any longer to comprehend or even to grasp the vast accumulation and ever increasing volume of scientific knowledge which flows on in an uninterrupted stream, whose tributaries ramify throughout our scientific domain and receive the collective output of an army of special workers. The most eminent and gifted group of our leaders, whether internists or surgeons, are now recognized by their professional colleagues as being authorities or experts only in a restricted sense, and who amongst us would have the temerity to pose as being equally competent in all of the varied subdivisions of surgery or internal medicine, as the case might be.

Consequently, there has come about a second change in that we have witnessed the dawn of a new era in clinical medicine and surgery. I refer, of course, to the recent development of the group idea, or the rational substitution of multiple for the time-honored single consultations in the study and treatment of patients. Already in our centers of population, at least, it has become recognized, both by the laity and the profession, that in all maladies of an obscure or even serious nature the services not of one or two but a coterie of highly trained specialists are required, if the individual patient is to obtain the best that modern medical science offers in diagnosis and therapy.

None of us, to be sure, has escaped a rude shake-up and a violent distortion of our individual purposes and plans through the unparalleled cataclysm from which we have just emerged, and epoch making events in human affairs and in international relations have crowded one upon another with such incredible swiftness as continually to further confound the already existing confusion and to defy any and all efforts to catalogue and estimate their ultimate significance. It is too early yet to determine with any degree of accuracy the full effect of all this upon the trend of medical science or to strike the balance as regards loss and gain. But this much is certain that the changed conditions to which I have referred, already inaugurated before the w o r l d w a r, have through it received a tremendous impetus. So much so that to-day I am able to formulate and establish a thesis upon observations made possible only by reason of a new point of view which has been gained during recent years through opportunities afforded by associated or group study of a very considerable series of patients. From this experience alone I made the significant discovery that the services of gynecologists and abdominal surgeons had hitherto been sought in the majority of instances only for end-stage surgical pathology, whereas on every hand are to be found literally hundreds of women the pathological physiology of whose pelvic and abdominal viscera is burdening their lives and materially discounting their efficiency and their happiness. These constitute the unrecognized and, hence, the neglected gynecological conditions to which I wish to call attention. Because I wish to emphasize the fact that the patients whose maladies form the basis of this report in every instance misinterpreted their symptoms and sought relief at the hands of individuals representing the most diverse clinical specialties.

In one of the largest groups, functional disturbances of the gastro-intestinal tract were subjectively in the foreground and quite naturally led them to seek the advice of a gastroenterologist. The uniform findings on physical examination were a state of malnutrition, deficient muscle tone, moderate secondary anaemia, splanchnoptosis, gastric retention with eructation and epigastric distress, c o l o n i c stasis and constipation. The picture is indeed a familiar one. Many of these individuals had been previously pulled out of such a state of physical bankruptcy through properly directed rest cures and symptomatic therapy, but they invariably lapsed into their former deplorable state of health soon after resuming their customary activities and responsibilities. A variety of pelvic disorders were encountered in this group, but by far the most frequent organic basis was found to be unsuspected obstetrical injuries. This observation has established more firmly than ever in my mind a conviction which I have had for some years that it is not mechanically possible for a normal sized full-term child to descend through the birth canal of a normally developed woman — no matter by how experienced an obstetrician or under however ideal conditions the labor may be conducted—without leaving permanent injury of sufficient degree as not

only to be later readily demonstrable, but also, in most instances, to be directly responsible for a group of symptoms, like that detailed above, which later seriously impair the health of the woman. The profession has had to endure much undeserved opprobrium in years past by reason of the false teaching that obstetrical injuries constitute one of the unpardonable sins and brand the attending physician as incompetent. At most there is only a grain of truth in such an indictment; for the injuries to which I refer have not to do with those of a relatively trival nature which may be largely avoided or, if they occur, lend themselves to immediate repair at the time of delivery. But rather I would draw attention to the really significant injuries, which include stretching of the supporting ligaments of the uterus through its enormous enlargement, its heavy weight and the force and duration of its expulsive contractions; lacerations of the cervix, later to become either chronic foci of infection or, in many instances, the precursors of a cancer; and submucous stretching and tearing of the highly important subvesical fascia anteriorly, which forms the chief support of the bladder, and of the levator muscle fibres, together with their encasing fascial layers, posteriorly. Furthermore, let it be remembered that the damage to these important structures is concealed at the time of labor in most instances, nor can its extent be accurately determined at the end of the puerperium even by an experienced observer, since weeks or months must elapse before the atrophy, which inevitably follows, is complete. And then there gradually develops the familiar syndrome indicative of lack of support to the pelvic viscera — a sensation of heaviness or bearing down in the pelvis, inability to stand or walk for any length of time, bladder irritability, difficult defecation, lumbosacral backache, dysmenorrhea, and excessive menstrual flow. Now consider for a moment the effect upon the central nervous system of such a vicious and uninterrupted bombardment and is it any wonder that its wonderful co-ordination becomes deranged and every possible variety of functional disturbance ensues?

One of the surprising and noteworthy observations made in the course of these diagnostic studies was the remarkable frequency of perverted ovarian function with its disturbing influence upon the functional integrity of other units of the endocrine system. Thanks to the recent period of intensive study of the ductless glands and in spite of a bewildering maze of theoretical and speculative rubbish that has accumulated in connection with it, certain new facts relating to ovarian physiology have been scientifically established which are tremendously significant and practical, especially from a clinical point of view. Foremost among these is the demonstration of the scope and complexity of ovarian function. Formerly our conception of these remarkable little organs occupied a tiny niche in our brains that figuratively could be very aptly represented by the anatomical one which they normally occupy in a woman's pelvis. But how wofully we underestimated their importance! To-day, however, we know that they should be placed at the very top of the list in any rational estimate of the relative part played by the various endocrine units in the female body economy. For where else can we find a ductless gland possessing fundamentally such significant functions from a biological point of view? Beginning in the pre-adolescent period, probably through the elaboration of specific hormones, we find them responsible for the normal growth and development of the generative tract; at puberty we see them bring about that amazing metamorphosis which we describe collectively as the development of the secondary sex characteristics, in which are included such diverse phenomena as radical changes in bony conformation and body outline, in fat distribution, in mammary gland development, in regional distribution and growth of hair, in facial expression and in the quality and tone of the voice; throughout the long period of sexual maturity, by means of a most exquisitely coordinated cyclic mechanism, we find them governing all of the complex details of the sexual, the mentrual and the reproductive phenomena; while the changes in the mammary glands, the thyroid gland, body metabolism, body temperature, blood pressure, as well as the complex nervous and mental instability incident to menstruation and much more conspicuously in evidence at the menopause, all point unmistakably to that intimate reciprocal relationship now known to exist between the ovaries and the other units of the endocrine system. Add to all this the anatomical fact that each ovary is packed with multiple cells which we call ova, each one of which is endowed by na-

ture with the potential power of reproducing all of the heterogeneous structures of a human body and then recall the long list of ovarian neoplasms, both benign and malignant, so commonly met with and so pernicious in their effects, which represent a perverted function of highly specialized ovarian elements, and we no longer have any cause for wonder that ovarian disorders are fundamentally responsible for much of the ill health from which women seek relief. Particularly in this connection are to be borne in mind patients of a neurasthenic and psychoneurotic type; those exhibiting symptoms of thyroid, hypophyseal, or adrenal disturbance; those with disordered metabolism resulting either in a state of subnormal nutrition or in degrees of adiposity; and those presenting sexual indifference, amenorrhea, dysmenorrhea, sterility, or subnormal constitutional development. But the rational therapy of these disorders, let me emphasize, lies not in the late radical surgery so commonly required nowadays but rather in early conservative and corrective surgery.

There was one feature in this group study of patients which was particularly discouraging because it corroborates a conclusion which I reluctantly reached only after thirteen years of active participation in the large gynecological clinic at the Johns Hopkins Hospital. I refer to the continued and inexcusable neglect by the profession of patients with abnormal uterine bleeding. These studies show that such patients rarely consult a gynecologist until the condition responsible for this symptom has progressed to end-stage pathology. On the contrary, they not only consult general practitioners or specialists in other fields first but, almost uniformly, they fail to mention the fact that they are bleeding and seek relief from such symptoms as weakness, lack of energy and endurance, shortness of breath, palpitation of the heart, mild grades of œdema, and sometimes even from anæmia. And what a tragedy it is that the profession continues year in and year out to complacently ignore the pelvic organs as a possible cause of such symptoms, undertaking rather to combat them with the administration of pet tonics or upbuilding regimes, thus supinely fostering the gigantic and diabolical patent medicine evil, while twelve thousand women in the very prime of life die annually in the United States alone from cancer of the uterus! The indictment truly is a serious one but the excuses offered do not excuse. The fact is that over sixty per cent of these cancer cases when they finally reach the gynecologist give a history of having been under the care of a physician for a period of six months or over, during which time they presented the typical symptoms of this disease. And when it is recalled that unless properly treated three-fourths of them die within two years and one-third within one year of the initial symptom, it becomes evident that a delay of six months means not only end-stage pathology but is equivalent to a death sentence by slow torture. After a careful scrutiny of the various factors involved, I am convinced that two fallacies which are prevalent both in the minds of the laity and of the profession are responsible for this deplorable situation. One is the teaching that cancer of the uterus does not occur until after thirty years of age, and the other is the belief that irregular, excessive or some other form of abnormal uterine bleeding is to be expected at the menopause age and, therefore, is of no particular significance. I have repeatedly seen uterine cancer at every period of life from the early twenties to extreme old age and I, therefore, wish to state emphatically that the old teaching with reference to this diagnostic point is both erroneous and dangerous and that the real age limits extend from puberty to death. With reference to the second and more important misconception, I do not wish to convey the impression that even a majority of the cases of abnormal uterine bleeding are due to malignant neoplasms. Complications of pregnancy, infections, benign tumors, functional derangements and other rarer conditions fortunately explain a majority of them. But the point is that cancer of the uterus in the early and curable stage produces only one symptom and that happens to be an insignificant amount of abnormal bleeding. Therefore, absolutely the only safe rule is to regard every case presenting this symptom, no matter at what age, as cancer until its existence is disproved by a searching examination. In the beginning, let it be remembered, this is a focal disease and one cannot reasonably expect a sudden gush of blood or a continuous profuse hemorrhage from the breaking down of a few epithelial cells. Whenever the menopause is characterized by anything other than a gradual diminution in the amount of the flow

to complete cessation it is abnormal and should be promptly regarded with a suspicion that compels immediate investigation. Especially insidious are those cases of supposed return of the menstrual flow after the menopause was thought to have been consummated. And let us fix in our mind with unforgettable clearness that ulceration of the cervix is cancer in a percentage so nearly approximating one hundred that the average physician will not meet with an exception to this rule more than once in a life-time, and, finally, that the most unfortunate characteristic of this horrible disease is that in its uncomplicated form it produces not a twinge of pain until hopelessly incurable, text-books to the contrary notwithstanding. If, therefore, we are ever to make any progress in our warfare upon this malady, we must first rid our own minds of the fallacious beliefs just enumerated and then educate ourselves to recognize in many symptoms remote from the pelvic domain nature's danger signals warning us of incipient pelvic disease.

No group of cases in this entire series was more interesting than that presenting multiple foci of infection, because it was sometimes difficult to determine just which focus was responsible for the patient's specific complaints. Of course the arthritic cases formed a considerable proportion of this group and all of us know how much more satisfactorily not only those but a number of other maladies, which were formerly imperfectly understood, have been treated since the causal relationship of foci of infection to them was demonstrated. So intensively have these studies been prosecuted within recent years that the profession has learned its lesson quickly and well and an exhaustive search for infected teeth, tonsils, paranasal sinuses, vermiform appendices and gall bladders now forms a routine part of every thorough physical examination. Scarcely, however, in this connection has sufficient emphasis been given to the important role played by pelvic infections in their damaging influence upon the health of women. Indeed, if we are to give them their proper place, they should head the list of this entire iniquitous group. For if we focus our attention upon that insidious and deceptive disease tuberculous peritonitis, we are at once reminded that in women it more frequently spreads from the fallopian tubes than from any other focus; if we then turn our attention to the large number of serious infections resulting from imperfect obstetrical technique and the ever-multiplying and nefarious acts of the criminal abortionists; and, finally, if we add to these the incalculable number of frank venereal cases which, thanks to the amazing disclosures of the medical examining boards of our Army and Navy during the recent draft, we now know infest every community, whether rural or urban, to such an extent as to seriously imperil the very life of the Nation: I say if we consider collectively these three groups of infections, not only as regards their injurious effects upon the afflicted individual but also from a public health standpoint and on eugenic grounds, we then begin to grasp the tremendous importance of having them excluded as a part of every diagnostic study made of women.

Lastly, one of the most instructive as well as one of the largest groups of cases encountered in this entire series was that embracing those patients whose presenting symptom was obscure right-sided abdominal pain. In some of these the gall bladder had previously been drained; in others it had been removed; some had undergone gastro-enterostomy; others appendectomy; still others had sacrificed a right ovary to the advancement of surgical knowledge; while not a few had survived various combinations of these procedures to which were later added further laparotomies for supposed adhesions. These cases illustrate with uncommon force the minimum requirements for successful abdominal surgery in women which are (1) an expert knowledge of so-called general abdominal surgery, (2) an expert knowledge of gynecology in the widest sense of this term, and (3) an expert knowledge of female urology. Lack of the last named requirement was found to be the most frequent cause of mistaken diagnosis and unsuccessful operative therapy, for in most of them a simple cystoscopic study by the Kelly open-air method revealed some hitherto unsuspected abnormality of the right urinary tract as the true cause of the obscure pain, and when this was intelligently treated the pain usually disappeared.

In conclusion, my purpose in this communication has been primarily to point out the prevalence of neglected gynecological conditions as revealed through these group studies of a large number of patients and to show how they were etiologically responsible for the most varied combinations of symptoms. My plea today is for the recognition of this situation by

the profession in order that proper corrective surgery may be instituted as the initial therapeutic step before end-stage pathology has been reached and the individual's organism hopelessly impaired.

1200 *North Charles Street.*

WHAT DOES THE OBSTETRICIAN OWE THE PREGNANT WOMAN IN THE WAY OF PRENATAL CARE?*

By BURNLEY LANKFORD, M. D., Norfolk, Va.

This paper is not meant to be an exhaustive answer to the above question, nor will it deal with the treatment of the various departures from the normal, common to pregnancy, but is a simple presentation of what would seem to be the least that should be done for women who entrust themselves and their future offspring to us. It is my hope that the discussion will bring out other phases of prenatal care by which we may each be enabled to give better service to the next woman who engages us.

Our first endeavor, when a young woman comes to place herself under our care, should be to show her that we feel a personal interest in her case, and by our attitude during the first interview to win her confidence and to arouse in her a desire to co-operate with us during the months to come. Such an attitude, established in her at the beginning, will be very helpful to her, not only during her pregnancy, but also when the test of labor comes, and it will likewise make our own task less burdensome.

There are various ways occurring to each of us by which we can try to attain this end, and with this end in view it seems to me very important that we must not appear to be in a hurry with her, as nothing we can do will tend to prevent more, this feeling of confidence and personal touch, than having the woman think that we are in a hurry to get rid of her and admit the next patient.

Her history should be carefully taken, in the main, just as we take the history of any other patient, being particularly careful to inquire as to the course of previous pregnancies, labors and puerperiums, as by this we may gain important information that will help us to avoid a repetition of certain complications and sequelae. We should know if she has had tuberculosis, diphtheria, malaria, typhoid, repeated tonsillitis, rachitis, syphilis, or any possible gonorrhoea with its attendant pelvic inflammatory disease. The questions to bring out information relative to the last two named diseases should be put very carefully. If we have reason to suspect, or if we know the woman has had syphilis, we should have a Wassermann done as early as possible so that treatment may be begun if necessary.

In her present history we should inquire into her general manner of living, her daily habits, diet, recreation, exercise, and sleep, giving appropriate advice as to each when we find such advice is needed.

Anything of interest in her family history should be recorded, such as tuberculosis, cancer, cardiorenal disease, occurrence of tumors, insanity, and epilepsy.

Having finished the history we should make a careful physical examination and if we have not the time for this on the first visit, it is a good plan to explain to her that we have not the time today and that rather than hurry through, it will be better that she return at some stated time. The physical examination should embrace in every case, the temperature, weight, blood pressure, color, teeth, throat, thyroid, lungs, breasts, nipples, abdomen, pelvic measurements, vaginal examination, and an inspection of the lower extremities for varicosities and oedema.

The normally pregnant woman will usually begin to gain weight soon after she becomes pregnant, or at least as soon as she gets through with the nausea that often prevents her from taking as much food as she needs because of her fear that she will vomit it. If we find that she is not only not gaining but is losing weight, we can be certain that something is wrong and set to work to find out the cause. If we find from weekly weighings that she is standing still, we can likewise suspect something wrong and go after the cause.

The temperature should be taken as a routine, as we will occasionally be put on the trail of an early tuberculosis or a chronic malaria by a slight rise in temperature that we might otherwise miss at this initial examination.

It has long been known how valuable is the information to be gained by systematic, regular study of the blood-pressure during pregnancy. (We are interested in the systolic pressure rather than the diastolic, or the pulse pressure in this connection.) Much work has

*Read before the Seaboard Medical Association of Virginia and North Carolina, in Norfolk, Va., December 1919.

been done in various clinics the result of which has been to add to our obstetric armamentarium the sphygmomanometer as a highly valued instrument, not often leading us astray in prognoisis.

We cannot always depend upon a rising or high pressure as an infallible evidence of the early approach of toxemia, and on the other hand we should not allow ourselves to be lulled into a feeling of security ignoring other signs and symptoms, because the blood pressure is not elevated. A few cases will run a high pressure throughout, without getting into trouble, and some cases will become so toxic as to have convulsions, with a pressure not high enough (per se) to have raised our suspicions. As an instance of the former, I have a woman under observation for the last two and a half months, now in the fifth month of her pregnancy, whose pressure stays at 170, who looks and feels well and whose urine is sufficient in amount and shows no albumen and centrifuged specimens no casts. (She of course will bear a very close watching). As instances of low pressure, I have recently attended two women, undoubtedly eclamptic, one having had nine convulsions (four before and five after delivery) whose highest pressure, and that maintained only on the day she was having convulsions, was 160. The other had three convulsions on the fourteenth day following delivery. Her pressure was at no time over 130, and that only once, the average of many readings being between 110 and 120. It is important to begin the pressure readings early in pregnancy, as any departure from the normal that may be peculiar to that patient may be discovered early and not be mistaken for a sudden development during the latter months.

While noting the color of the eyes, mucous membranes and nails, inquiry should be made into her energy, her liking or distaste for exercise or daily work, and if the answers are unsatisfactory it will be well to take her haemoglobin and red cell count.

The teeth should be looked after and questions asked as to any trouble with them: we should find out who does her dental work (the reason for this being that many people do not choose their dentists with much care, and we may find that our patient is under the care of, or intends to consult some advertising quack) and how long since she has had them inspected. Should she have any trouble either visible to us, or showing itself by symptoms, she should be sent to a competent dentist, who should be apprised of her condition.

Should she apparently have no trouble, she should nevertheless be advised to see a dentist who we know will give her teeth a careful examination, and who will be more capable of finding early caries than we can be. Any small decay can be detected and cared for at once, rather than allowed to run along into the latter months of pregnancy when it may be impossible and will always be inconvenient for the woman to have her teeth treated. There is no reason, so far as I know, for the far-reaching fallacy that women should not have any work done on their teeth while in the pregnant state. It is a well known fact that her teeth are much more liable to softening and decay at this time, and sound reason demands that, instead of less attention, she should have more. She should be cautioned to keep her teeth cleaner than ever, by careful use of brush, rinsing after each meal, and the use of magnesia at bedtime.

After inspection of teeth, we should look at tonsils and inquire about previous, or repeated attacks of tonsillitis, making note of same. It not infrequently happens that a woman will develop an acute tonsillitis during the first week of her puerperium, and in any acute rise of temperature, or chills, following labor, where the cause is not evident, the tonsils should be suspected and inspected.

The thyroid should be palpated and a note made if we have any reason to suspect hyperthyroidism. It should be remembered in this connection, however, that the thyroid gland normally hypertrophies during pregnancy, and enlargement alone does not have any pathological significance in the absence of symptoms of hyperthyroidism. It has been claimed that albuminuria is often due to a lack of thyroid secretion, and that a large percentage of cases will show an absence of the thyroid hypertrophy usual in pregnancy. However, we do sometimes see cases of marked pathological function of the thyroid, and it is well to always keep the thyroid in mind.

Some years ago I treated a woman for the most pernicious and most nearly fatal vomiting of pregnancy that ever came to my notice. The condition then was thought to be due to the hypertrophy of thyroid. Two years ago she had her thyroid removed. She is now in her fourth month of pregnancy and up to

the present, has not had a day of nausea and is apparently in excellent condition.

At the first examination, the heart and lungs should be carefully gone over and should they be found normal, we may as a rule, omit further examination of them during subsequent visits, and dispense with further anxiety about them. Cases of broken compensation should be aborted; where there is valvular trouble, but compensation good, the patient should be told of the weakness and given suitable advice with reference to cardiac protection. Should there be a question of acute tuberculosis, we should have her examined by the best man available and if the diagnosis is concurred in, we should abort her before the third month. This would seem to be the safest rule to follow, so far as we can follow any set rule. All cases vary. Where the woman is very anxious for children, is well provided for financially, and insists on the trial after she has had the danger explained to her, I think we are justified in letting her go to term, in the meantime throwing every safeguard we can around her, before, during and after her labor. One such pregnancy may be safely borne, but where others follow, and in quick succession, the outlook for the woman is very hopeless. I have followed both plans, aborting some and carrying some through, and have always questioned, in my own mind, the wisdom of each course. I hope that some of the members with large experience, will take up this question in discussion, stating what conclusions they have arrived at, as to the course to be pursued in treating a pregnancy in the presence of active tuberculosis.

After the examination of the heart and lungs, the breasts should be inspected and palpated, for true glandular tissue or mere fat, and instructions given, during this examination, as to the care of the breasts and nipples during the last six or eight weeks of pregnancy. There are several methods advocated for preparing the nipples for the sudden strain of nursing. The most logical seems to be that which will tend to thicken the outer layers of epithelium and at the same time keep them soft and pliable. The two agents that will best accomplish this are massage and oil. We can explain to the patient that if she uses a broom constantly for an hour or more, she will probably wear some blisters in her palms, but she can sweep fifteen or twenty minutes at a time for the rest of her life and never wear a blister because the skin gradually thickens, and reacts to the irritant gradually rather than acutely. Likewise, when a lusty, hungry baby is turned loose on a nipple for fifteen or twenty minutes every few hours, the skin will often blister and crack, but if the baby be allowed to take the breast gradually, and for short periods, the likelihood of cracks, erosions, and fissures is much reduced. The important point in prophylaxis just here, therefore, is to let the baby nurse only five minutes at a time during the first few days, or until the milk flow is well established and he does not have to tug and strain in the effort to satisfy his hunger. Efforts to toughen and thicken the skin are not useless but very helpful, and each prospective mother should be cautioned to care for her breasts.

The abdomen should next be inspected and palpated, the parts of the foetus mapped out, and if the pregnancy has advanced far enough, the foetal heart located. The height of the fundus above the symphysis should be noted. Monthly records of the height of the fundus will be found of some assistance in recording the time of confinement. We have not, so far as I am aware, any method that will tell us the day or the hour when any given pregnancy will terminate spontaneously, but we can feel pretty sure that a woman who shows a fundus thirty-four or thirty-five c.m. above the symphysis, is not a month over due, as women often think they are. The reverse is also true, that a thirty-five c.m. fundus will not be a month before it empties itself.

The fact that a woman has had one baby should not absolve us from the obstetric duty of taking her bony measurements. A few of these measurements are taken more for the purposes of teaching and practice, than for the actual help gained as to the size and shape of the pelvis. There are some, however, that should never be omitted: these are the interspinal, the intercristal, Baudelocque's or external conjugate, the internal diagonal and the outlet, or distance between the tuber ischii. If I could take only one, I would always choose the internal diagonal as the one giving the most valuable information, and the tubers next.

The vaginal examination should be made *last*, and as slowly, carefully and gently as possible, getting all the information we can about the pelvic floor, the size of the vagina and the nature of any discharge present, the prominence of the spines of the ischia, the

width of the pubic arch, the presence of exostoses on the inner walls of the pelvis, the inclination of the coccyx, the condition of the cervix, before we attempt the internal diagonal, as this is always painful and should be reserved for the last. An inspection of the lower extremities for varicosities and edema will complete the examination.

It is much more important for us to know our patients and their general condition throughout their pregnancies, than it is for us to have an occasional sample of urine sent to the office for examination. We may use the importance of a regular and frequent examination of the urine, however, as a potent argument in getting these patients to present themselves to us regularly for observation and advice. The pregnant woman should be encouraged by every possible means to get out of doors daily. She should be advised, cajoled, threatened, encouraged, anything to make her get out. The false idea of modesty that would make a woman remain in doors after her seventh month should be combated, and one way we can do so is to insist that she come to the office. At each of these visits she will be more likely to appreciate the importance of presenting herself regularly if she be required to void her urine at the office, and if she comes to the office it will be easier for her to go out at other times. A record should be kept by us, of the twenty-four hour output of urine, from week to week, and month to month, if we would be posted about our patient's kidney function. It is a bit more trouble for them but we should insist that each specimen sent to the office, should be from a mixed twenty-four hour quantity. The first examination of the urine should include, in addition to the time-honored test for albumen, sugar, specific gravity, etc., a careful microscopic examination of a centrifuged specimen, noting the presence of pus, red cells or casts. Should this initial examination prove negative, I believe we will be safe in omitting further microscopic examinations, providing that no signs or symptoms arise in the patient to arouse our suspicions of impaired kidney function. If we carefully and earnestly impress on each patient at her first visit, the importance to her of regularly presenting herself, sending her urine and of calling for us at the *beginning* of danger signs which we point out to her, there are few women who will neglect themselves. Those few we should either cut off our lists, or else make up our minds to go after them at regular intervals if they will not come to us. Unsuspected eclampsia should and will seldom occur, where we take the above stand. Where we are unwilling or have not the time to take such a stand, we should not engage to care for pregnant women.

At each subsequent visit of the patient to the office, or ours to her, we should get her weight, blood pressure, pulse, examination of urine (voided at office), diet, inspect her for edema, inquire into sleep, appetite, exercise, bowels, headache, and listen to any symptom she may volunteer.

Towards the end of pregnancy she should be told that there *must be no* sexual intercourse during the last month. If she shows by her manner or speech that the power of controlling that pleasant function does not rest with her, we should see the husband and explain to him the reason for abstinence at that time. Between the two, our advice may be followed, in a small percentage of cases. This practice undoubtedly accounts for some of the puerperal infections of obscure origin.

In twenty minutes one can hardly cover all the points of prenatal care. Those that I have omitted I hope others will bring out in the discussion.

530 *Shirley Avenue.*

THE INFLUENCE OF THE GREAT WAR ON SURGERY.*

By W. LOWNDES PEPLE, M. D., F. A. C. S., Richmond, Va.

While too short a time has elapsed since the signing of the armistice to tell what ultimate effect the work done in the war will have on civil surgery, still certain facts are known, certain impressions have been gained, and certain deductions may be drawn and set forth.

The first question that presents itself is, "What will be the effect on the younger men of the profession, whose first actual personal experience was with this very radical war surgery?"

I am inclined to think it will be most harmful and, in many instances, will lead to the taking of long chances and the performance of ultra-radical and injudicious operations.

As for the older men who had already found themselves, so to speak, there was much

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

to gain and little fear of losing what had been bought so dearly in the market of experience.

This war was the biggest thing that ever took place.

Thousands of doctors of varying ages, temperament, habits of life and thought, representing every State, city, almost every village and hamlet in these broad United States, were poured into the hopper, passed through the mill, and are now safely back in their homes again. With them have come certain impressions which are destined to be felt in every nook and corner of this country.

Attention has been focussed on wounds until it is almost like a new thought. There is a new attitude toward wounds.

The Carrel-Dakin treatment, with its sensible, practical technique, has made a profound impression and that impression has been carried everywhere.

The minute care, the personal care, the continuous care of wounds, has become a very real thing to thousands. The after-care of wounds is no longer a thing to be lightly turned over to the inexperienced. It is a problem tremendously important, to be followed conscientiously and painstakingly by the most skilful. I have seen surgeons of international reputation doing dressings in the wards, doing them beautifully and taking an intense pride in their new found occupation.

Remember that whatever our attitude is toward a wound, that wound is of immense importance to its owner. If it can be made to assume the same proportions in our eyes as in his, we can save him days, weeks, or months, by giving it the attention that it deserves.

The secondary closure of wounds has been lifted up out of the hap-hazard stage and put upon a definite scientific basis. We know now exactly when to close a wound and can very accurately predict results. This has been made possible by routine bacteriologic examinations.

At first one is inclined to think that the clinical appearance of the wound is all that is needed. Ordinarily it is; but if followed, one will some day close over the streptococcus and spend much time in sorrow and regret.

We are bound to the laboratory. A permanent co-partnership has been entered into by the surgeon and bacteriologist that can never be broken or dissolved.

Debridement in civil accidents will give just the same results as in war accidents, and these have been brilliant. If all devitalized tissue is removed from a wound within eight or ten hours after its infliction and a proper antiseptic treatment is inaugurated, the chances for clean and early healings are increased a hundred fold.

If routine wound-cultures can be made in improvised hospitals in barracks, shacks and tents, under the stress, tension and pressure of war, what a simple task it should prove at home in peace, in a modern hospital!

The X-ray—what can one say of it? I would say that its horizon has been immeasurably broadened. The speed and accuracy of localization is wonderful, but the real advance has been in showing clearly to the multitude what a few men knew well—the daily necessity for the use of this agent in all kinds of work, not only as a diagnostic aid but as a measure of the progress of recovery in empyemas, pneumonias, abscess of the lung, and many other conditions. Prior to the war these things were not known of all men. Now there are hundreds to bear testimony.

The value of post-mortem work has impressed men deeply and is sure to have a far-reaching effect. The accurate setting forth of one's mistakes in cold, black print, and the blazing of the way for a clearer comprehension of cases that are to follow has had a profound influence.

Fractures.—Nothing the Army has done stands out more clearly than its work on fractures. The Manual of Splints and Appliances for the Medical Department of the United States Army for 1917 is an achievement in elementary instruction.

The standardization of splints and the simplification of methods is beyond anything ever done in so short a time. The organization of the splint-teams to relieve the operating surgeons in compound fractures worked out most happily in the stress and strain of the big drives, as it greatly increased the number of cases that could be handled.

The general use of the Thomas splint in fracture of the long bones made the transportation nightmare a comparatively easy and painless journey. By the early application of this splint far up in the trenches where the man falls, a standard has been set for the transportation of wounded that has never been approached. There need be no more shock in fracture cases (and the early mortality was high from shock before the early use of the

splint was started), unless the man is shocked when he is hurt and before the journey begins. The work on joints, so the French and English tell us, in 1914 and 1915, was most depressing. When the Americans arrived the technique had been perfected to such an extent that one had to actually see the results to believe. The principles of "Debridement" were boldly carried into the joint; the devitalized bone curretted and injured soft parts removed, and the capsule closed. The French closed the entire wound.

Chest surgery has been revolutionized. The chest-cavity, like the joint, is boldly invaded and closed. Foreign bodies may be removed from lung substance with no great hazard. The bogie of lung collapse has been laid.

In the treatment of skull and brain injuries we have learned that very extensive operations can be done under cocaine, but on the whole, the work that I saw, though done well by good men, was disappointing. The mortality was distressingly high.

The results in immediate nerve suture were very promising, but too little time has elapsed to know what has really been accomplished.

In the treatment of shock I do not think that much has been accomplished except that morphine, heat and saline or the transfusion of blood, where hemorrhage is the underlying cause of the shock, occupy a firmer position than before the war began. The gum-salt solution was tried extensively, and while greatly praised by some was declared to be positively harmful by others.

Finally, one word for the much-abused "Paper-work" of the Army.

Men have come home with a much higher regard for the written word. The minute recording of facts about disease; the exact description of injuries required, will have a far-reaching effect on many of us whose methods were careless and hap-hazard.

It is like spending a year or two in the witness-chair, only our cross-examiner writes, and his words carry authority. This impression will abide with many of us a long, long time.

1209 *West Franklin Street.*

The mess hall and galley of the Charleston, S. C., Naval Hospital were burned on February 19, but patients in adjacent buildings were removed, and no one was hurt.

THE SYMPTOMS AND TREATMENT OF ACUTE INTESTINAL INTOXICATION WITH AND WITHOUT ACIDOSIS.*

By JOHN S. WEITZEL, M. D., Richmond, Virginia.

A condition quite prevalent during the summer and early fall months, associated with a high mortality, is that of acute intestinal intoxication. The high mortality is the result of a marked toxemia, a draining of the tissues of their fluids from the frequent watery stools, and of a frequent associated acidosis.

In the condition of acute intestinal intoxication we are confronted with the following picture: A child most frequently between the ages of four months and three years, having a temperature ranging between 99.6 and 105 F., is apathetic, with sunken eyes, doughy and and sunken abdomen, and frequently continuous vomiting. This condition simulating surgical shock in a way, is a very grave one, and demands heroic and prompt treatment to restore the tissues to normal function.

Considering the symptoms, one might mention the stupor which is sometimes quite profound, the sunken eyes, the weak thready pulse, and the general relaxation; however, there may be restlessness, excitement, and even convulsions. The drain of excessive fluids from the tissues creates a great thirst, consequently everything that is offered may be taken or on the other hand, everything may be refused.

Vomiting, with retching even after the stomach has been emptied, may be an early and important symptom, accompanied with the ejection of mucus and later bile.

Diarrhea may be delayed for a few hours to a day, the stools being at first fluid, varying in number from six to twenty in twenty-four hours, usually accompanied with tenesmus. Later, they consist principally of mucus with small quantities of blood, varying in amount from a small stain to the entire stool mixed with blood.

Prostration, which is usually quite marked, varies in proportion to the severity of the infection and the number of stools. Under proper treatment, the stools gradually lessen in number and the prostration gradually improves. In five or six days the stools usually become more normal in character; however, in a severe intoxication, whether the child is ro-

*Read at the fiftieth annual meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

bust or delicate, the attack may terminate fatally in from one to three days, ending in coma, high temperature, and possibly convulsions.

Loss of weight is naturally quite rapid, due to the limited intake of nourishment, and to the great loss of fluid by bowel.

Hyperpnea in this disease should be considered a grave symptom, for, almost without exception, those cases that develop hyperpnea, even though they may temporarily improve, finally die.

The *sunken fontanel* and *sunken doughy abdomen* are both quite marked, due of course to the tissues being drained of their fluids.

Associated with the condition of acute intestinal intoxication with acidosis, one finds a low carbon dixoide tension of the alveolar air, and an increase in the hydrogen-ion concention of the blood serum. There is present a great diminution of the alkaline reserve of the blood, causing an alteration in the normal relation between the acids and alkalies, so that the acids are in excess.

Considering the treatment of this condition one might mention first the *prophylactic treatment*.

Maternal Nursing should be continued through the summer months when possible, especially in children up to twelve months of age. The baby should be kept cool, both inside and out; the former by frequent draughts of water between feedings, the latter by light clothing and shade. Excursions and trips should be avoided, when the child would necessarily be exposed to the heat of the day or possibly receive a feeding of milk which contains some irritating or toxic substances.

Overfeeding should be avoided; consequently a longer interval between feedings should be advised.

Care should be exercised in procuring clean milk and milk that has been properly and continuously iced.

In considering the *hygienic treatment*, the child should receive plenty of fresh air, frequent sponges both for temperature and restlessness, wear light clothing preferably cotton or linen, and as nearly as possible should be absolutely quiet. Lastly, the immediate immersion of all napkins in a vessel containing a disinfectant should be the routine.

Regarding the *dietetic treatment*, food should be withheld both in nursing and bottle fed infants for twenty-four hours, allaying the thirst with either plain water or barley water. At the expiration of twenty-four hours a breast fed infant may be allowed to resume nursing, the amount previously given should be diminished, however, by lengthing the interval to every three or four hours, and giving water before each nursing. In bottle fed infants, after the twenty-four hour rest period, protein milk should be given, diluting it with one half water up to six months, and two-thirds protein milk and one-third water from six months to one year. The quantity given at first should be limited to two or three ounces, gradually increasing the amount as the symptoms improve. No sugar should be added until the bowels have regained their normal consistency and are limited to two or three movements a day. When an infant refuses this food entirely, which they sometimes do, gavage is indicated, giving the protein milk through a tube three or four times a day. When it is indicated to add sugar, one of the forms of dextri-maltose should be gradually added. A return to modified whole milk should be made after the stools have remained normal for from several days to one week. In older children, a return to solid food is allowed only after the stools have remained normal in number and consistency for at least four or five days.

In considering the *medicinal* and *mechanical treatment*, an initial dose of castor oil, varying from two to four drams, should be given unless persistent vomiting is present, in which case sodium bicarbonate should be started immediately and given in sufficient amounts to keep the urine alkaline, thus offsetting the occurrence of acidosis. If the bowels have been very active and nothing but serum and mucus is evacuated, an initial cathartic is not indicated. If vomiting persists after administration of the sodium bicarbonate, one or more stomach washings with sodium bicarbonate solution usually causes the vomiting to subside. A colon irrigation of warm saline once or twice a day proves quite beneficial in these cases, as it removes toxic products and mucus from the lower bowel, thereby relieving the frequent stools and tenesmus. Care must be taken to allow the saline to flow into the bowel with very little pressure, and to have the tube inserted a distance of four or five inches. The use of astringents is greatly overestimated; however, the administration of the bismuth subcarbonate in doses of ten grains every three hours under six months,

and every two hours over six months, until some astringent action is noticed, is occasionally quite beneficial.

Opium in the form of paregoric should be used with caution, and only to relieve tenesmus or when large watery stools persist, and then in doses large enough to obtain results but not to produce stupor.

A stimulant is indicated in cases associated with severe prostration, brandy, caffeine sodiobenzoate or camphor in oil being the most satisfactory.

When the condition of acidosis arises, it is indicated to administer sodium bicarbonate promptly either by mouth, subcutaneously, or intravenously; by mouth, grains fifteen to thirty every two hours should be given until the urine is alkaline, and then sufficient to keep it alkaline; when given subcutaneously, a two per cent solution is usually used, and a four per cent solution when the intravenous route is preferable. The two last mentioned methods naturally give the most immediate results; care should be taken however in preparing the sodium bicarbonate for subcutaneous use, seeing that the solution is merely warmed and not boiled, for boiling changes the bicarbonate to a carbonate which invariably causes sloughing.

The intravenous method in infants with an open fontanel has proven a very satisfactory route; this method is greatly simplified by the use of the Goldbloom needle which is specially constructed for the administration of medication by way of the longitudinal sinus.

In a severe form of this disease where the intake of water is greatly diminished and the tissues become drained of their fluids by the frequent watery stools, some means of getting fluid into the tissues promptly must be utilized. The intraperitoneal administration of normal saline has done more to accomplish this than any other procedure to my knowledge.

The technique for administering intraperitoneal saline is as follows: A spinal puncture needle is inserted through the abdominal wall, in the linea alba, one half inch below the umbilicus, the stylet is removed and the warm saline is allowed to flow by gravity into the abdominal cavity. The amount given varies from 75 to 150 c.c. according to the size of the child. This procedure is repeated daily until the tissues lose their dry parched appearance and the doughy consistency of the abdomen disappears.

In closing, I wish to emphasize three most important points; first the recognition of vomiting, for which sodium bicarbonate should be given promptly to offset the condition of acidosis; second, the feeding of protein milk after the initial rest to the stomach; and third, the intraperitoneal administration of saline, which is undoubtedly the most satisfactory and beneficial method of getting fluids into the tissues promptly.

Professional Building.

NITROUS OXIDE OXYGEN IN MOUTH AND THROAT OPERATIONS.*

By HARRY HARRISON, M. D., Norfolk, Va.
Anaesthetist, Sarah Leigh Clinic.

In these modern times, when everything tends toward improvement and advance in all lines of business and profession, it is necessary for us, as physicians, to keep abreast with the progress of the age, to see that every possible safeguard is thrown around the patients entrusted to our care, and to reduce the really necessary disagreeable features to a minimum; and, with the use of nitrous oxide oxygen anaesthesia, I think the happy medium has been reached for the patient, surgeon and anaesthetist.

From the standpoint of an anaesthetist, one of the greatest features in the progress of surgical work has been the development of nitrous oxide oxygen anaesthesia, not only in its administration for general surgical work, but in its use in nose and throat operations and prolonged dental work, where it stands out singularly above all other anaesthetics.

It is a most surprising fact that although nitrous oxide, or more properly speaking, nitrous monoxide (N_2O), was discovered before ether or chloroform, its use has been limited, and, even in this the twentieth century of enlightenment and advance, it appears to have been apparently discarded in some of our larger hispitals where, from statistics and repors, it should be the anaesthetic of choice.

Nitrous oxide is a colorless, transparent, feebly refractive gas with a pleasant and sweetish taste and practically no odor. When pure, it is wholly devoid of irritant properties and does not excite coughing, swallowing or any reflex irritation. It is readily compressed into a liquid, and as such is easily transported in steel and iron cylinders and, by releasing the

*Read at the meeting of the Medical Society of Virginia in Richmond, October 28-31, 1919.

pressure, is converted back into a gas ready for administration. Nitrous oxide oxygen is not only the most pleasant and quickest form of anaesthesia, but statistics show that it has a much lower mortality than ether or chloroform.

Age and sex offer no contraindications to its use. I have given it to children three years old, and to a man who was eighty years old. It is the safest anaesthetic for the aged and in moribund cases and bad surgical risks it has no peer.

It has no bad effect on either the respiratory or circulatory system, or kidneys, and no changes occur in blood pressure or in the blood itself. During its administration, when properly given, the patient presents a pink color with pulse and respiration normal and pupils reacting as with any other anaesthetic.

No shock follows its use even in prolonged anaesthesia, and reaction is practically immediate with a full restoration to consciousness.

For the past seven years I have been giving nitrous oxide oxygen anaesthesia for a large proportion of our surgical cases at the Sarah Leigh Clinic, using it routinely and with very gratifying results.

I have formerly used a modified Gatch apparatus and have been able to get all the relaxation necessary for exposure and work. Not all cases are smooth, but those cases which take a bad gas anaesthesia I find I would have still more trouble with ether, and in these cases, where necessary, a small amount of ether can be used, but even then, it should be measured in drops.

All our operative cases have a hypodermic of morphia, gr. 1-6, and atropine, gr. 1-100, half an hour preceding the operation. This has a tendency to quiet the nervousness incident to going to the operating room and assists the anaesthetist, for the complete control and confidence of your patient is all-important.

During the summer I had the pleasure of being with Dr. Teter, of Cleveland, Ohio, and watched his administration of nitrous oxide oxygen, not only for general surgical work, but chiefly in his nasal administration for tonsils and adenoids, as with the Gatch machine I could not administer a prolonged nasal anaesthesia.

I was so impressed with his method of anaesthesia, and it was so superior to any method I had ever seen, that I bought his apparatus and have been using it, not only for our routine work, but for tonsils and adenoids and for prolonged anaesthesia for dental work.

The Teter apparatus is the most ingenious and complete machine made, to be so simple in its mechanism and easy to operate. The special advantage of the apparatus is in having large tanks of gas and oxygen, 1000 gallons, and having it reduced to whatever pressure you desire. It has an electrical warmer for giving your patient a warm mixture of gas and oxygen. The most important part of the apparatus, from a personal standpoint, is the sight feed where you can at all times see your flow of gas and oxygen, and not depend on gauges and dials for your mixture. The simplicity and perfect control of your gases makes the machine practical.

For nasal administration, I have a nasal inhaler which goes over the mouth and nose for the first few inhalations and, after anaesthesia is induced, fits snugly over the nose and the mouth, and can be opened without any interference with the prolongation of the anaesthetic. I am using this method for all our tonsil and adenoid operations and have given it for surgeon dentists for as long as one hour and a half for extraction of impacted teeth, and with the usual good results.

Our patients do not mind taking the anaesthetic, and the greatest majority react from delightful dreams and go to their rooms smiling and happy.

At the Sarah Leigh Clinic, our cases now number over 6,500, covering practically every department of surgery, all ages and conditions. We have had no fatalities and no bad effects that can be either directly or indirectly traced to the anaesthetic. In more than sixty per cent. of the cases there is no nausea and, in the remainder, nausea amounts to very little, and probably comes from other things than the anaesthesia.

The patients, on being questioned, almost universally declare that there has been nothing at all disagreeable about the anaesthetic and would not object to taking it again if necessary. Its one disadvantage is that, to be administered satisfactorily, one must have prolonged training and experience and must be content to start with short and simple cases and gradually take longer and more difficult ones.

The public is being rapidly educated to the fact that nitrous oxide oxygen is the safest

and most pleasant form of anaesthesia, when administered properly, and I do not think it will be long before it will be used universally in all hospitals, not only on its own merit, but from the expression of public opinion.

RESULTS OF OPERATION UPON 600 WOMEN FOR DISEASE OF THE PELVIC ORGANS AND OUTLET.*

(Standardization of the Surgeon.)

By G. PAUL LaROQUE, M. D., F. A. C. S., Richmond, Va.

The present report is solely of *results* of operation upon *consecutive* cases of pelvic disease; none have been omitted. In no case have we declined to operate on account of the desperate condition of the patient, and in no case needing surgery has operation been postponed more than a short period of one day to two weeks for preparatory treatment and the opportune time. No one has died while *waiting* for operation; nor *without operation*, from any cause save extensive and inoperable cancer.

The following operations were performed:

Dilatation and curettage of the uterus...480
Repair, amputation and destructive cauterization of cervix 220
Repair of perineum 192
- Posterior 120
- Anterior 60
- Sphincter ani 6
- Recto-vaginal fistula..... 5
- Vesico-vaginal fistula 1

Ligament suture of displaced uterus.....325
Removal of uterus 120
- Abdominal 117
  - Subtotal 110
  - Total 7
- Vaginal 3

Removal of tumors of uterus (fibroids, polypi and papilloma) 20
Removal of contents of diseased uterus (child and foetus) 2
Removal of tubes (independently of uterus) 96
Single 74; double 22.
Removal of ovaries 115, and cysts 60.....175
Removal of appendix 455
Operations upon rectum, between 50 and.. 60
Suture of holes ulcerated through bowel.. 10
Operations for abdominal hernia..... 35
Operations upon the bile tract..... 35
Operations upon bladder and kidneys, urethra, vulvo-vaginal glands, plastic operations for obesity and ptosis of the abdominal wall and other miscellaneous operations were performed upon between 35 and 50 women.

There were five gross errors of diagnosis.
- One normal pregnancy,
- One pregnancy complicated by gall stones,
- One ascites due to cirrhosis of liver,
- One inoperable sarcoma of uterus,
- One inoperable papilloma of ovaries and peritoneum,
- One complicating tuberculous kidney.

Seven accidents have occurred during operation:
- One accidental abortion,
- One accidental tear of cervix,
- One bowel was torn, one was cut, one punctured by needle,
- One gauze sheet left in abdomen and removed two hours later,
- One gauze sponge left in vagina and removed two weeks later.

Post-operative complications:
- Three cases of dangerous traumatic shock and one of septicaemia with slight added shock occurred.
- One case of exhaustion due to diarrhea occurred two days after extensive operation for cancer of the uterus.
- One case of cardiac embolism occurred in a well woman on the 12th day.
- One case of acute dilatation of the heart is noted.
- Among the first 400 cases of this series dilatation of the stomach occurred in 3 per cent; in the last 200 cases in 1 per cent.
- Intestinal paresis often desirable has not been the cause of anxiety: post-operative peritonitis has not occurred.
- Mechanical intestinal obstruction (complete) has occurred in two cases: partial in at least three cases.
- Post-operative frank pneumonia has occurred once and in doubtless others, lung and pleural infections of mild type have occurred. Bronchial asthma occurred once.
- Partial kidney breakdown occurred once.
- There were two cases of post-operative insanity: one a menopause psychosis followed by complete recovery; the other

*A brief abstract of an article read before the Seaboard Medical Association, Norfolk, Va., December 3, 1919, and by title before the Medical Society of Virginia, Richmond, October 28-31, 1919.

an attempt at suicide apparently of normal mind at the end of three months.

Hyperthyroidism of severe type is recorded in two cases.

Two cases of retention of urine with overflow are recorded.

Pyelitis (acute operative) was followed by acute exacerbation in 6 cases.

Phlebitis occurred three times.

There was one case of hemiplegia three weeks after operation, one bed sore and one hot water bottle burn are noted.

Three cases of post-operative hemorrhage from the cervix, one haematoma of the perineum, occurred. There has been no post-operative abdominal hemorrhage.

Abdominal wound trouble (haematoma and mild infection) has occurred in 5 per cent. of cases: in only 2 per cent. was this followed by fever of over 100 degrees or by delay in healing beyond a few days. Three of the closed cases (24) complicated by wound trouble developed abdominal rupture, and three of 24 cases drained subsequently were operated upon by me for rupture. There have doubtless been others of which I have not been informed.

There have been 12 deaths—2 per cent. of 600 cases; 8 of these occurred in the first 300 cases.

90 per cent. of 588 cases were out of bed in 12 to 14 days; 5 per cent. in 3 to 7 days; 5 per cent. in 14 to 21 days.

All cases are propped up in bed whenever they please, usually after 5 to 7 days, and, as soon as they feel equal to the trip after getting out of bed, they go home. There are many real advantages other than economy to the patient, in getting up and out of the hospital early after operation, and we are shortening this time steadily, and with great satisfaction.

The final or ultimate results are better judged by the patients' doctors at home. When all surgeons report the immediate results, good and bad, in all cases treated; and when all physicians report the ultimate results, good and bad, of all cases operated upon by different surgeons and make open and public comparisons, surgeons may be scientifically standardized and the results of surgery improved.

HOW SHALL DOCTORS BE OBTAINED FOR RURAL DISTRICTS?

By JOHN A. GIBSON M. D., Leesburg, Va.,

If I had arrranged the programme for the State Medical Society, the first topic for discussion would have been, What are we going to do to supply physicians for our rural districts?

After the experience of the past year, this is to me a very grave question and one that cannot be disposed of at leisure, due in my opinion to the following reasons:

1. The high mortality existing among physicians and the retirements due to infirmities.

2. The present entrance requirements are such, that parents of country boys, who are of moderate means, are unable to give their sons a medical education.

3. The seeking of easier fields.

To demonstrate the first, would say, that Loudoun county has lost in the past sixteen years, by death, sixteen of her physicians; by retirement, nine, and has acquired to fill these vacancies nine. Should this condition exist over the entire State, it will be only a short time before the country doctor will be a memory of the past.

The country boy is the hope of the rural districts of Virginia as, unlike the city boy, he has been accustomed to hard knocks from his birth. Endowed with plenty of backbone, energy and sand, he cares little for the ice, snow and mud of winter or the heat and dust of summer. He formerly graduated well, returned to his old environment and became a good, honest, plodding doctor, commanding the respect and love of the community in which he worked.

It is this class of men that the present requirements prevent from obtaining an education; the men who graduate now are looking for some better thing: they want to specialize and, if their parents can afford it, why not?

In the meantime, the country districts suffer and wait for a remedy, which will take at least seven years to supply. Hence the necessity for taking some immediate steps in the matter, as the long distances by the country doctor, under the present regime, puts undue

hardship on him and his patients do not receive sufficient attention.

Then too, the expense to the patient is enormous, as the time consumed in these long calls has to be considered, to say nothing of drugs, the operation of machines and "the high cost of living."

The only solution of this condition in my opinion, is that the State take a certain number of its poor young men and educate them at her expense, requiring them after graduation, to practice, say at least five years in the rural districts, leaving to them the choice of location. This, I believe would replenish the vacancies permanently, as before the five years had expired, most of them would have married and had from two to four children, which would prevent them from re-locating, as they could ill afford, with a family, to take a chance on the limited amount of capital acquired during the five years. Or, should they "side-step" the-e entanglements, the experience gained will make them much better and broader men, with more self-reliance and they would be better fitted for any special line.

I should be glad to have this question discussed through the Journal.

Proceedings of Societies.

Warren, Rappahannock and Page County Medical Society.

Present officers of this Society are Dr. J. M. Ropp, Shenandoah, President, and Dr. R. P. Cooke, Front Royal, secretary.

The Roanoke Academy of Medicine

Had as their guest Monday night, February 16, 1920, one of America's most prominent surgeons, Dr. W. D. Haggard, professor of surgery in Vanderbilt University. The subject of Dr. Haggard's paper was "The Use of Radium in Inoperable Cancer and Other Conditions." The paper was discussed by Drs. Gale, A. P. Jones, T. D. Armistead, E. G. Gill, J. D. Willis and E. P. Tompkins. A number of doctors from Southwest Virginia attended the meeting and were the guests of the Roanoke Academy of Medicine to a bountiful banquet, which followed the scientific program of the evening. The attendance of the meeting was the largest in the history of the Roanoke Academy of Medicine.

The Academy has a number of other distinguished specialists scheduled to appear on their program during the year.

The Tri-State Medical Association of the Carolinas and Virginia

Held its twenty-second annual session in Charlotte, N. C., February 18 and 19, Dr. Robert C. Bryan, Richmond, presiding. Owing to the incidence of influenza in the States from which it draws its membership, the attendance was smaller than had been expected, a number of those whose names appeared on the program being unable to leave their practices.

Spartanburg, S. C., was selected for the place of meeting in 1921 and the following officers were elected: President, Dr. John P. Munroe, Charlotte: vice-presidents, Drs. J. A. Williams, Greensboro, N. C.: W. W. Fennell, Rock Hill, S. C.: H. S. Hedges, Charlottesville, Va. Dr. J. K. Hall, Richmond, was elected secretary, succeeding Dr. Rolfe E. Hughes, who had held the office for twelve years and declined to stand for re-election.

Analyses, Selections, Etc.

Surgical Drainage From a Biological Viewpoint.

Dr. J. Shelton Horsley, Richmond, in a paper read before the Southern Surgical Association, at New Orleans, in December, called attention to the defenses of the body from injurious foreign substances, mentioning the vomiting of nauseating food by the stomach, expulsion of irritating substances from the bladder, the rectum, or the larynx, by means of muscular action, and the attempted washing away of irritating foreign bodies in the nose or eyes by increased secretion. He said that in solid tissue nature endeavored to extrude an irritating foreign substance by reversing the lymph circulation in the neighborhood and pouring out lymph around it. This is the biologic basis of drainage. He discussed drainage from the abdominal cavity, and said that it was practically always up-hill, and yet it was successful because the drainage material not only relieved the pressure, but provoked the outpouring of large quantities of lymph in an effort to extrude the drainage material, and this serum carried along with it products

of bacterial infection that might otherwise be absorbed.

In solid soft tissue, as in the thigh, the lymph supply is not so abundant, and consequently gravity drainage must be utilized. In the abdomen the supply of lymph is so abundant and its pouring out is so constant along the drainage track that it makes little difference whether the drainage tube is pointed up or down, so long as it is of sufficient size and of the proper kind of material to provoke the outpouring of serum.

Drainage should be instituted after every radical operation for cancer of the breast, or in the neck, as it would tend to prevent the absorption of cancer cells that may be left in the wound for reasons that have been mentioned.

Irritating foreign substances in bone cause absorption of lime salts around them. Nature evidently does this to loosen the foreign substance in a preliminary effort to extrude it. This induced osteoporosis accounts for the frequent cases of non-union of fractures after use of metal plates and screws. Probably many so-called apical abscesses are the reaction of the bone to the material with which the root of the tooth is filled.

Drainage of infected epithelial lined hollow viscera carries off the inflammatory products, affords physiological rest, and also produces a reversal of the circulation of the local lymphatics that will prevent the absorption of much of the septic products. It is probably for these reasons that drainage of an infected bladder is beneficial and of the common bile duct is effective in pancreatitis.

Drainage material should be selected with a view to inducing a reversed flow of lymph, to carrying away the liquid products of the wound, and also with a view to injuring the wound as little as possible. The ideal drainage material has not been found, but empirically combinations of gauze and rubber tissue have been worked out that are fairly satisfactory.—(Journal A. M. A., Jan. 10, 1920.)

Operation and Recovery in Spontaneous Pneumothorax Following Artificial Pneumothorax.

A patient with acute tuberculous bronchopneumonia was treated by artificial pneumothorax. Thirty-four days after the first introduction of nitrogen gas and following a coughing fit, spontaneous pneumothorax developed. At first this was partial; within twelve days the spontaneous pneumothorax had become complete, and purulent fluid developed in the chest. The patient became very septic and gravely ill, and on the eighteenth day of the spontaneous pneumothorax a rib resection was done under local anaesthesia.

C. H. Cocke, of Asheville, who communicates this case report, notes that, after surgical operation, the patient's relief was spectacular and that his fever disappeared within a day or two, and has remained normal since. The author discusses the probable causes of spontaneous pneumothorax following artificial pneumothorax, but comes to no conclusion regarding its etiology.—(Amer. Rev. Tuber., Vol. III, No. 12.)

Medical School Merger.

House bill No. 176, providing for the appointment of a commission on medical education in Virginia and merger of the University of Virginia, Medical Deparment, and the Medical College of Virginia, passed the House on the 4th of March. The measure was amended to provide for the appointment of a commission to report to the next General Assembly. Of this commission, two members will be appointed by the president of the Senate, three by the speaker of the House, and five by the Governor.

Hopewell Day Nursery Orgainzed.

On February 17, a committee, with Dr. J. C. Bodow acting as temporary chairman, met in Hopewell, Va., and organized the Hopewell Day Nursery. Dr. Carrie Davis was elected secretary of the permanent organization.

Few Virginia Physicians Take Out Liquor Permits.

Approximately 300 doctors in Virginia have to this time applied to the Federal prohibition director for Virginia for permits to purchase alsohol and 628 druggists have secured permits to sell alcohol. It was expected that more doctors would make applicattion for these permits, as no bond was required for the purchase and prescribing of whisky in the State. Heavy penalties will be imposed upon those who prescribe alcohol without having filled the required blanks.

Public Health Nursing.

Public health nurses have just been sent to Bath, Henry and Roanoke Counties and to Lexington, Va., places which have not heretofore had this form of health service. There seems to be a growing demand for public health nurses, and the Bureau of the State Health Department in charge of this work reports a number of vacancies at this time.

Malarial Surveys in N. C. Cities.

A number of cities in the eastern section of North Carolina are planning campaigns for malarial control. The proposition is to kill out mosquitoes by destroying their breeding places and making it impossible for them to return. This will not only relieve the residents of this section of a great pest, but will do away with malarial fever, which so undermines the health of a community. The survey will likely be commenced in Goldsboro. The city desiring the services of the State and Federal authorities has to assume one-half of the expense.

The Truth About Medicines

New and Nonofficial Remedies.

During February the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion in New and Non-official Remedies:

Nonproprietary Articles:
- Eucatropine.
- Phenacaine.

Gilliland Laboratories:
- Gonococcus Vaccine (Polyvalent) (Gilliland.)
- Staphylococcus Vaccine (Albus and Aureus) (Gilliland.)

Werner Drug and Chemical Co.:
- Eucatropine-Werner.
- Phenacaine-Werner.

Book Announcements

American Illustrated Medical Dictionary 10 Edition. Edited by W. A. NEWMAN DORLAND, A. M. M. D., F. A. C. S., Member of Committee on Nomenclature add classification of Diseases of the A. M. A. Tenth Edition, Revised and Enlarged. Philadelphia and London. W. B. Saunders Company. 1920. Large 8vo. of 1201 pages with 331 illustrations, 119 in colors. Flexible leather, $6 net; thumb index, $6.50 net.

This tenth edition compares most favorably with previous editions, but has been brought up to date and is a new and complete dictionary of terms used in medicine, surgery, dentistry, pharmacy, chemistry, veterinary science, nursing, biology and kindred branches. It contains over 2,000 new terms and a Posologic and Therapeutic Table. The Index gives important headings where large numbers of correlated facts are grouped. An especially attractive feature about this book is that when opened on the desk, its binding is such that it will lay flat and a weight is not necessary to hold it open at any desired place.

Syphilis. A Treatise on Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By HENRY H. HAZEN, A. B., M. D., Professor of Dermatology and Syphilology, Medical Department of Georgetown University and in the Medical Department of Howard University. With 160 illustrations including 16 figures in colors. St. Louis. C. V. Mosby Company, 1919 Cloth 8vo. 647 pages. Price $6.

The Systematic Development of X-Ray Plates and Films. By LEHMAN WENDELL, B. S., D. D. S., Chief of the Photogaphic Work, Instructor of Prosthetics and Orthodontia, College of Dentistry, University of Minnesota. Illustrated. St. Louis. C. V. Mosby Company, 1919. 78 pages. 8vo. Cloth. Price $2.

A Manual Of Obstetrics. By JOHN COOKE HIRST, M. D., Associate in Obstetrics, School of Medicine. University of Pennsylvania; Obstetrician and Gynecologist to the Philadelphia General Hospital. 12-mo. of 516 pages with 216 illustrations. Philadelphia and London. W. B. Saunders Company, 1919. Cloth $3 net.

Manual of Obstetrics. By EDWARD P. DAVIS, A. M., M. D., F. A. C. S., Professor of Obstetrics in Jefferson Medical College, Philadelphia. Second Edition, Revised. Philadelphia and London. W. B. Saunders Company. 1919. 478 pages, profusely illustrated. Cloth. Price $2.50.

Cerebrospinal Fluid In Health And Disease. By ABRAHAM LEVINSON, B. S., M. D., Associate in Pediatrics, Northwestern University Medical School. With a foreword by LUDVIG HEKTOEN, M. D. St. Louis. C. V. Mosby Company 1919. 231 pages with 56 illustrations, including 5 color plates. 8vo. Cloth. Price, $3.

Psychiatric-Neurologic Examination Methods. With Special Reference to the Significance of Signs and Symptoms. By DR. AUGUST WIMMER, Director St. Hans Hospital, Roskilde, near Copenhagen, Denmark. Authorized translation by ANDREW W. HOISHOLT, M. D., Medical Superintendent, Napa State Hospital; Professor Psychiatry, Medical Department, Leland Stanford Junior University, San Francisco. St. Louis. C. V. Mosby Company, 1919. 177 pages. 8vo. Cloth. Price $2.

Virginia Medical Monthly

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Editorial

Look For The Pink Slip In Your Journal.

If you find it, you will know what is wanted, and we will appreciate your co-operation. If you have sent in yours, this, of course, does not apply to you.

An Appreciation.

The friends and associates of Dr. Hugh S. Cumming are much gratified to hear that he has been recommended by President Wilson for the position of Surgeon General of the United States Public Health Service. This position is one of great dignity and importance, and the honor has been conferred on a man who will fully measure up to its responsibilities.

Dr. Cumming was born in Hampton, Virginia. He received the degree of Doctor of Medicine from the University of Virginia in 1893, and from the University College of Medicine in 1894. After a year spent as Interne in one of the private hospitals of Richmond, he entered the United States Public Health Service, and during the last twenty-five years has been stationed at various points in this country. At the beginning of the war he was assigned to duty with the Navy, and after serving some time in Washington was sent overseas to investigate health conditions in the A. E. F. He was recently believed to be in the Balkans, but he will doubtless return home shortly to assume his new duties.

Dr. Cumming's professional ability and large experience as a sanitarian well qualify him for the position to which he has been nominated, but, in addition, he has personal characteristics which will insure his success in his new office. He has a pleasing appearance and gracious manners and will make a creditable representative of the Government on all occasions. He is a systematic and thorough worker and, while possessed of an infinite capacity for taking pains, he is not overwhelmed by details or tied up by red tape, but can grasp big principles and go straight to his object. He has force, decision and the courage of his convictions, but he has also tact, diplomacy, and is a good politician. Finally, but by no means the least of his assets is the possession of a charming wife, formerly Miss Lucy Booth, of Carter's Grove, Va.

STUART MCGUIRE.

Food Factors In Nutrition.

After all is said, physicians must turn to food as the "white hope" in their fight against disease. Forces within the body, when assailed by infections and by degeneration, must rely upon the food factors given the body in such conditions, to antagonize the infection and sustain the body during the infection period. With thoughts of this sort in mind, Mendel's* article on Food Factors in Gastro-Enterology offers us a basis for comment upon a few of the new facts on the chemistry of foods and nutrition.

Protein from different sources varies much in digestibility. It is known, for instance, that the protein of the legumes, especially beans, are more resistant than proteins from many other sources in the animal as well as the vegetable kingdom. Mendel calls attention to Bateman's investigations, which emphasize the fact that native egg white is poorly utilized in the intestines, and this fact has been brought forward as an argument against the use of raw eggs; on this point Mendel quotes him: "A substance which fails to stimulate a flow of gastric juice and is antipeptic, which hurries from the stomach, calls forth no flow of bile and strongly resists the action of trypsin, which is poorly utilized and may cause diarrhea, has evidently little to recommend it as a foodstuff of preference for the sound person, let alone for the invalid.

*Food Factors in Gastro-Enterology, Mendel, L. B. The American Journal Medical Sciences, September 1919, page 297.

And when the native protein needs only to be coagulated at 70 degrees in order to obviate almost all the effects mentioned, there appears still less reason for using it uncooked. Other considerations strongly support this conclusion."

Wheat bran is also known to resist intestinal digestion, and is therefore used, not for its food value, but more for its effect as a laxative, it being a foreign and irritating factor in the intestines. It is also worthy of comment in this connection to observe that because a protein is easily and readily digested in the intestinal tract it is not necessarily an ideal element for use in food. This is illustrated by gelatine, which is readily digested by the proteolytic enzymes of the intestinal canal, but is an "incomplete" protein. It is incomplete because it fails to furnish some of the amino-acids that are needed for perfect nutrition. In this "gelatine age," when one meets "gelatine" in all the colors of the rainbow, draped in green and yellow, upon the trays in the hospitals, this fact may well be remembered.

Further, there is a group of commonly used proteins which, while possessing value in some degree, is wanting in the bed-rock quality needed in the actual growth and reconstruction of the protein-body-structure. This is true of proteins of wheat flour. Osborne, says Mendel, has recently demonstrated that protein of wheat flour is inferior to many other foods in producing growth of rats. But when used in combination with proteins from eggs, meat or milk, this cereal protein greatly enhances in nutritive value: "the component of the diet must be appropriate in quality as well as quantity, and all of the essential units must be represented."

Inorganic Elements.—The mineral elements of food are certainly essential for structural purposes in the body. The bone structure alone makes this statement obvious in relation to calcium. The whole part played by the salts in the blood, in the secretions, and in the tissues of the body, is very complex and much remains to be learned. Osborne has observed, very truly, that "although there is unanimity of opinion regarding energy needs of the body under different circumstances of age and activity, although the current estimates of the minimum amount of protein required per day seem to be defined within reasonable limits, although the function of fat and carbohydrate and the possibility of their interchange are beginning to be understood; there is no adequate experimental basis whatever to permit tenable statements regarding either the indispensability or the minimum requirement of any of the inorganic constituents of the dietary with the possible exception of calcium and phosphorus. A beginning has hardly been made in this field of investigation."

There are some very apparent needs, it would seem, in the body for a regular intake of the inorganic elements. The structural and osseous system; the obscure roll of the maintenance of osmotic equilibrium in circulating fluids within and without blood-vessels and lymphatic system; the indefinite balance of acids and bases; the stimulation of heart muscle; the control of muscle tonus and irritability; the formation of gastric juice, are only a few of the interesting questions which are closely related to the intake of inorganic elements in the diet.

Virginia Doctors and our Advertisements.

It is a fine feeling when one may utter in the same breath "Doctor" and "Advertisements" with a sense of ethical righteousness. It is a fine feeling because it is no violation of that high and honorable standard followed by true physicians who frown upon all measures that advertise to the lay-public professional qualities, whether real or imaginary—no high-thinking doctor, who deals rightly by his obligations to the science and art of medicine and to his professional associates, would contemplate for a moment the advertising of his name and his professional qualities in the lay press. Of that sort of pernicious advertising we are not speaking at all.

We are, however, again calling attention of the members of the Medical Society of Virginia to the advertisements appearing in their own journal. We are calling attention to these advertisements because we believe they are trustworthy and clean. The doctors of this State may, with confidence and with advantage to themselves, read the claims made in these advertisements. So, we may be pardoned in expressing a sense of pride and satisfaction in the character of our advertisements and, in urging the physicians of Virginia to show their appreciation of the patronage of our advertisers by dealing with them.

This is a business and a just request. For without the sale of the advertising space this journal could not be conducted. We are merely asking members of the State Society to stand by their own friends when we ask you to patronize our advertisers. Let the advertisers know when you make your purchases that your attention was drawn to their product through advertisement in the VIRGINIA MEDICAL MONTHLY.

Stand by our friends in our advertising pages, and let them know you are doing it!

Is Your Local Society Active?

Reports from various county and city societies show that a large number are inactive. This applies particularly to the county societies. A majority, however, are functioning satisfactorily and report an increase of interest on the part of members since the return of our country to normal. County societies which have been reported inactive, charge this inactivity chiefly to the fact that large numbers of their members entered the medical corps of the army and navy, and either have not returned or have so recently returned that they have not had time to get settled. In a very few cases societies have been reported as "dead," and the secretary was informed that it would be impossible for them to start anew. We are, of course, not deterred by the pessimism of officers and members who have been terribly overloaded with work during the past two years. It is the purpose of the Medical Society of Virginia to so strengthen its organization that its influence for the good of the State and for its own protection will be felt in every county and city in the State.

In this day, when every profession, trade, calling, business, and enterprise is organized, it seems trite to recall the advantages resulting from a strong, active, alert, progressive organization of physicians.

The chief advantages may be briefly summarized:

It raises the tone and standard of the profession in its community. You will find the most progressive physicians in the local society; the new practitioners cannot afford to remain out. The influence of the men who have established themselves in the community carries great weight with the young physicians and also those whose ideals are not instinctively high. The ethical standards of the profession must be maintained by all of its members; the man who may be tempted to ignore these standards knows that he cannot do so and retain his own standing in the profession.

An organization of physicians meeting regularly offers its members not only an opportunity to know each other intimately, but also to keep abreast of the times in medical and surgical achievement. A regular program, with reports on cases, insuring study and thought, will guarantee to the community happy enough to have such a live organization the highest type of health protection and safety.

The persuasive power of the physicians of this State on matters affecting health, sanitation, medical standards and medical education is great. Organized, this influence would be almost absolute. When the medical profession is completely organized in this State, it can get from both State and municipal authorities laws and ordinances covering matters of vital importance to the health and happiness of every man, woman and child in the State. While the Medical Society of Virginia is not a political organization and will never become one, its judgment on proposed legislation affecting health, sanitation, the care of diseased persons and the protection of the communities against infectious and contagious diseases should be readily available to members of legislative bodies. When its opinion on these matters as well as on proposed laws affecting the practice of medicine in this State is advanced, if it has the backing of an active organization, it will speak with authority.

The future welfare of the medical profession in this State lies in the development of strong county, city, and district societies.

G. H. WINFREY,
Secty.-Treas.

News Notes

Medical Legislation In Virginia.

We had hoped to have in this issue a report of the work done by the Legislative Committee of the Medical Society of Virginia, and a statement of what has been accomplished before the General Assembly in behalf of the medical profession of the State. Shortly before going to press, however, Dr. H. U. Ste-

phenson, chairman of this committee, informed us that pressure of personal work would prevent his publishing this report before April.

In recognition of Dr. Stephenson's services, we think it only fair to state that he has been in Richmond much of the time since General Assembly convened, and has worked diligently "in season and out of season" for the enactment of certain medical laws looking to the maintenance of a high standard for doctors and medicine in the State of Virginia.

Botulism.

Recent fatalities from botulism, traced in these specific cases to the consumption of canned ripe olives, should place us on the *qui vive* for the bacillus botulinus in other foods. According to Public Health Reports, the Bureau of Chemistry has gone the limit of its legal authority to remove all dangerous foods from the market by seizure under the food and drugs act. But, since the law authorizes seizure only when the foods are actually found to be decomposed or to contain poisonous ingredients and only an occasional package in millions may be infected with the bacillus botulinus, it is beyond the power of the authorities to protect the public completely.

In these days, when everybody is using canned goods, the necessity is urgent for scrupulous care on the part of persons opening and serving foods to discard any food showing the slightest unnatural odor or color, signs of gas or other evidence of decomposition. It may be found in any canned food, whether put up by the careful housewife or in a commercial establishment, and may occur in goods put up in either glass or tin. The fact that one container is found to have gone bad is no sign that all of the same lot may be spoilt, as the bacillus may be present in only one or a few packages of the same lot. This is why we should "abstain from all appearance of evil" in canned goods.

The Congress on Internal Medicine

Met in Chicago at the Congress Hotel on February 23 to 28. With the exception of two illustrated lectures and a joint meeting with the Chicago Medical Society, the entire time of the Congress was devoted to a series of interesting clinics at the various hospitals, and no stated papers were read.

There was a large attendance and enrollment of many new members. Canada and practically every State was represented.

Wednesday evening, the Congress attended an illustrated lecture by Prof. Alfred Scott Warthin, Chief of the Department of Pathology, University of Michigan, on the Medical Aspects of Gassing in Warfare, with particular reference to mustard gas.

Thursday afternoon, the Congress was the guest of the City of Chicago. Automobiles were provided for a trip to the Chicago Tuberculosis Sanatorium, where Dr. Francis M. Pottenger, of Monrovia, California, delivered an excellent illustrated lecture on the Relation of the Sympathetic Nervous System to the Symptoms of Tuberculosis, at the same time demonstrating on tubercular patients some of the important points brought out in his lecture.

Thursday evening, following the banquet, the annual convocation of the American College of Surgeons was held. Dr. Reynold Webb Wilcox, of New York City, presided. Certificates of Fellowship were presented to the newly elected members.

Those attending the Congress from Virginia were: Drs. A. G. Brown, A. A. Houser and W. A. Shepherd. Those from Virginia elected to Fellowship in the College of Physicians were Drs. John Staige Davis, Edward McGuire, J. Morrison Hutcheson, Alexander G. Brown, Alfred L. Gray and William A. Shepherd.

Health Campaigns On Co-operative Basis.

Halifax County, Va., has just started upon a twelve-month co-operative sanitation campaign, with Dr. W. A. Newman in charge as field director for the State Department of Health. Headquarters will be at South Boston.

Fairfax County, which has just closed a year on the co-operative plan, by which the county puts up half of the cost and the State Health Department and the International Health Board assume the other half, is so well pleased with results accomplished under Field Director Dr. E. L. Flanagan, that it has decided to continue the work at its own expense for another year, and has engaged Dr. Flanagan to continue in charge.

Augusta has likewise just finished a twelve-month campaign, under the direction of Dr. H. M. Wallace, and Albemarle is preparing to begin one. Other counties in which health

campaigns are being waged on this basis are Alexandria, Fauquier, Prince William and Pittsylvania.

Memorial Hospital Will Shorten Hours For Nurses.

Superintendent Morlok, of Memorial Hospital, Richmond, states that, effective April 1, he will establish at that hospital a straight eight-hour system for nursing, which means that no nurse will be on duty more than eight hours in the twenty-four. This is the first hospital in Virginia to establish this plan for its graduate and pupil nurses. The three sections will be operated from 7 A. M. to 3 P. M.; 3 P. M. to 11 P. M.; and 11 P. M. to 7 A. M. This will give one section for duty, one for recreation and study and one for rest.

There are now wonderful opportunities for women in the nursing profession, and more fields are opening up to them each year. The great shortage of nurses at this time makes it possible for a graduate nurse to take up practically any field of nursing that appeals to her.

Water-Borne Typhoid.

"Now is the time to take steps to prevent the threatened outbreak of water-borne typhoid," is a statement made by the U. S. Public Health Service. Many Virginia communities have installed waterworks and sanitary privies. Health officers throughout the State should insist upon having potentially dangerous sources of water supply being made safe, and should further insist that communities provide for the safe disposal of human excreta.

Now is the time to get busy with this work, as many water-borne epidemics of typhoid fever occur in the late winter and early spring as a result of extensive rains and freshets, which wash infected material into the water supply.

How Shall Doctors Be Obtained For Rural Districts?

There is a short article appearing in this issue on the above subject, and Dr. Gibson states that he would be glad to have an expression of opinion from other doctors as to what can be done to secure physicians in the rural sections of Virginia.

This is a very live subject and one that needs to be solved. Requests are constantly received at this office and at the offices of the State Board of Health for physicians, especially in the country districts. The situation in Loudoun has its counterpart in practically every other county of the State. Our columns are open to suggestions.

The Influenza Situation Clearing.

At least in the cities, influenza may be said to be subsiding. Figures of the Public Health Service indicate that this year's epidemic was of shorter duration than last year's, and the disease has been in a much less severe form. It is doubtful if the excess mortality from this disease will be more than forty per cent. of what it was in the principal wave of the 1918-1919 epidemic.

Dr. W. Herbert Lewis,

Lawrenceville, Va., was recently operated upon for appendicitis at St. Luke's Hospital, this city.

Blue Ridge Sanatorium.

Delay in opening this sanatorium has been caused by inability to have the heating plant installed. It is now expected that Blue Ridge Sanatorium for the treatment of persons suffering from tuberculosis, which is located near Charlottesville, Va., will be opened about April 1. There will be accommodations for approximately 120 people.

Seven N. C. Counties Not Visited by "Flu."

Seven of the 100 counties in North Carolina had reported no "flu" cases during the first thirty days of the epidemic in that State. Five of these were in the western section of the State. To February 21, there had been reported in North Carolina 47,572 cases against 103,000 for the first month of the 1918 epidemic.

Delegates to State Democratic Convention.

Drs. E. L. Kendig, Victoria, and W. D. Kendig, Kenbridge, have been elected as two of the delegates from Lunenburg County to the State Democratic Convention, to be held in Roanoke, May 19.

Muldavia Sanitarium Destroyed.

The Muldavia Springs Hotel and Sanitarium, at Kramer, Ind., a popular health resort, was completely destroyed by fire of unknown origin, on February 29. The loss is estimated at $250,000, with an additional loss of about $50,000 for personal belongings of the guests.

Home and Retreat of Lynchburg Receives Gift.

The family of the late James R. Gilliam, of Lynchburg, Va., has made a gift of $60,000 to the Home and Retreat, of that city, as a memorial to Mr. Gilliam, for many years chairman of the former board of directors of the hospital. Plans have been drawn up for a new hospital building, a portion of which will be constructed this year.

Gift To American Hospital.

Mrs. Robert Bacon, wife of Col. Bacon, at one time American ambassador to France, has given to the trustees of the American Hospital in France nearly 5,000,000 francs, with the request that it be used to endow twenty-four beds in free wards of the new American hospital which is to be built at Neuilly. The endowment is in memory of her husband, who was president of the American Hospital.

Dr. John F. Ragland,

Centralia, Va., a former member of the General Assembly of Virginia, was the last of February elected president of the class of postgraduate students of the Manhattan, Eye, Ear and Throat Hospital of New York.

Receive Masonic Honors.

Drs. George B. Fadeley, Falls Church, and G. T. Snead, Princess Anne, were elected district deputy grand masters at the annual meeting of the Grand Lodge of Masons in Virginia, held in Richmond in February.

Lecture At Fredericksburg Normal School.

Dr. Greer Baughman, of the Medical College of Virginia, Richmond, recently gave the first of a series of lectures before the Fredericksburg State Normal School, his lecture dealing with the general subject of eugenics.

Dr. E. C. L. Miller, also of the Medical College of Virginia was scheduled for the second of this course of lectures to be held in March. His subject is, "Quacks and Facts in Medicine."

The Charlotte Sanatorium,

Charlotte, N. C., is having an addition made which will duplicate in construction the present building. This will have a lying-in and children's department.

Cleansing Skin For Vaccinations.

It has come to the attention of the Public Health Service that denatured ethyl alcohol containing phenol has been used for the purpose of cleansing the skin at the site of vaccination against smallpox. The Bureau believes that such procedure would materially decrease the likelihood of securing successful "takes" from vaccine, and suggests that cleansing the skin with soap and water is preferable, but, if another agent is desired, ether may be nesd.

In this connection, health authorities throughout the State should urge the necessity of vaccination of school children.

Additional Locations Needing Doctors.

Information has been received that there is a good opening for a doctor in Fauquier County, Virginia. If interested, communicate with Miss Virginia Colbert, Warrenton, R. F. D. No. 2, Virginia.

A physician is needed for the territory around the Smith River Lumber Company Mill, at Fayerdale, Va., this physician also to act as the company physician. Good proposition for a young physician who will do country practice. Information as to salary to be paid by company and field from which to draw private work may be obtained by writing Mr. W. E. Morgan, care the Smith River Lumber Company, Huntington, W. Va.

Conference of Industrial Physicians and Surgeons.

The Pennsylvania Department of Labor and Industry will hold its tenth Conference of Industrial Physicians and Surgeons in the State Capitol at Harrisburg, March 25th. It promises to be of unusual interest, as it will be the final day of a four-day Safety Congress held by this department, and will have speakers of international prominence.

An invitation is extended by Dr. Francis D. Patterson, Chief of the Division of Industrial Hygiene and Engineering, to all readers of this journal, to attend the meeting.

Dr. Andrew D. Parson,

Formerly of Roaring Fork, Va., has recently moved to Raven, Va.

Dr. W. Boykin Lyles,

An alumnus of the Medical College of Virginia, was elected vice-president of the Spartanburg, S. C., Medical Society, at its last annual meeting.

The Royal League Sanatorium,

Black Mountain, N. C., was completely de-

stroyed by fire originating in its power house, on the night of February 15. The estimated loss, partly covered by insurance, is $30,000. Patients were moved without bad results to the Cragmont Sanatorium, which is also in Black Mountain.

The American Proctologic Society

Will hold its annual meeting in Memphis, Tenn., April 22 and 23. Dr. Collier F. Martin, Philadelphia, is president, and Dr. Ralph W. Jackson, Fall River, Mass., is secretary.

New Health Officer for Charlotte, N. C.

Dr. Andrew J. Warren, formerly assistant State Health Officer of North Carolina, has been appointed health officer of Charlotte, N. C., to succeed Dr. C. C. Hudson, who resigned to accept a similar position in Richmond, Va.

Dr. Richard C. Cabot,

Boston, has been appointed professor of social ethics at Harvard University.

Declines Harvard Offer.

Dr. John M. T. Finney has declined the offer made him to become professor of surgery at Harvard University, and has elected to remain professor of clinical surgery at Johns Hopkins University.

The Carpenter-Davis Hospital

Is a new private hospital recently opened in Statesville, N. C., by Drs. Forest A. Carpenter and James W. Davis.

New Orleans Meeting Of A. M. A.

Those who expect to attend the New Orleans meeting of the American Medical Association, April 26-30, inclusive, should not neglect making reservations in advance. This city, with all of its Southern charm, will hold attractions for many, and a large attendance is expected. Dr. J. J. Wymer, 1216 Maison Blanche Building, New Orleans, is chairman of the local committee on hotels, and will be glad to assist in securing reservations for those who communicate with him.

Dr. Stuart McGuire,

Of this city, was elected president of the Richmond Chapter of the University of Virginia alumni at its annual meeting in February.

Dr. John Staige Davis,

University, Va., was recently called to Danville, Va., by the illness of a relative.

Much Diphtheria in New York City.

Health Commissioner Copeland, of New York City, on February 25, inaugurated an educational campaign to combat diphtheria in that city. He stated that it was reaching epidemic stages, as 2,773 cases with 274 deaths had been reported since January 1.

Dr. Henry A. Christian,

Of Boston, Mass., but a native Virginian and well known here, was a recent visitor in Richmond.

Dr. D. L. Elder

Was elected one of the five members of the executive committee of the Democratic Club of Hopewell, Va., at its meeting the middle of February.

Dr. George Ross,

Of this city, was elected one of the vice-presidents of the Virginia Society of the Sons of the American Revolution, at its annual meeting in Richmond, February 23.

New Army Hospital In Florida.

The former Columbia College, at Lake City, Fla., has been purchased by the U. S. Public Health Service, through the Treasury Department, and will be converted into an army hospital at an early date. Practically all available hospital equipment used at Camp Joseph E. Johnston, near Jacksonville, will be removed to Lake City and used in equiping the college building as a hospital.

Dr. William T. Graham,

Head of the State Orthopedic Hospital, in Richmond, gave an illustrated talk the latter part of February, before the Social Service Federation, on "Reconstruction of Crippled and Deformed Children."

Campaign Planned Against T. B. For 1920.

Members of the Virginia Tuberculosis Association, the State Board of Health, and others specially interested in the fight against tuberculosis in Virginia, met the latter part of February in this city, and discussed plans for combating the white plague in Virginia during 1920. Among the doctors attending this meeting were: Dr. Ennion G. Williams, State Health Commissioner; Dr. Roy K. Flannagan, of the State Health Department; Dr. William F. Drewry, Petersburg; Dr. Charles R. Grandy, Norfolk; Dr. H. G. Carter, Piedmont Sanatorium, Burkeville; Dr. Walter

Klotz, of Blue Ridge Sanatorium, near Charlottesville; Dr. B. L. Taliaferro, of Catawba Sanatorium; and Dr. Dean B. Cole, of the Virginia Tuberculosis Association, Richmond.

Nomination Of Dr. Cumming Confirmed By Senate.

The nomination of Dr. Hugh Cumming, of Virginia, as Surgeon General of the U. S. Public Health Service, has been confirmed by the Senate, and he will take up his work upon retirement of the incumbent, Surgeon General Rupert Blue.

Location Wanted.

Physician desires location. Would buy ont retiring physician. State full particulars. For information, address "Location," care the Virginia Medical Monthly. (Adv.)

Obituary Record.

Dr. Edward Chauncey Register,

One of the most prominent doctors of this section and well known as the editor and publisher of the Charlotte Medical Journal, died at his home in Charlotte, N. C., February 18, as a result of pneumonia following influenza. He was sixty years of age, and graduated from the New York University Medical College in 1885. After this, he located in his native State and had been the recipient of many honors from the profession of North Carolina. He was possessed of a striking personality, a pleasing manner, and easily won the friendship of those with whom he came in contact.

Dr. Register had been a member of the Medical Examining Board of North Carolina and of the North Carolina State Board of Health. He was an ex-president of the Medical Society of the State of North Carolina, the American Medical Editors' Association and of the Tri-State Medical Association. This latter, which was meeting in Charlotte at the time of Dr. Register's death, suspended sessions that its members might attend the funeral in a body. Dr. Register was a practicing physician of Charlotte, the author of several books, and took a prominent part in the affairs of his community.

He is survived by his wife and a host of friends who will learn with regret of his death.

Dr. William Allen Deas,

For many years a resident of Richmond, died February 17, at the age of 85 years, and was buried in Petersburg. Before the War Between the States, he was in the United States Coast Survey, but when the war began he joined the Confederate army and was later severely wounded near Fredericksburg. He graduated from the Medical College of Virginia in 1879, after which he went as a medical missionary to China. This work he was forced to give up on account of suffering from his war wound. He then attended lectures in Vienna, Paris and London and, on his return to the States, located in Richmond, where he married and had since made his home. He was at one time coroner of Henrico County and then physician to the Old Soldiers' Home until forced to retire on account of failing health.

Dr. Elmer Ernest Southard,

Professor of neuropathology at Harvard Medical School and director of the Boston Psychopathic Hospital, died in New York City, February 8, from pneumonia following influenza. He had gone to New York to deliver several addresses before medical bodies. He was 44 years of age, and a graduate of the Harvard Medical School in 1901. During the war, Dr. Southard was a major in the chemical warfare service, and was also chairman of the committee on psychiatry and neurology of the National Research Council.

Dr. Frank Fletcher,

A member of the Medical Society of Virginia, dropped dead at his home in Jenkins Bridge, Va., February 25. He had been in bad health since he suffered a stroke of paralysis about two years ago. Dr. Fletcher was 74 years of age and a graduate of Jefferson Medical in 1869.

Lt. Crispin Wright,

A brother of Dr. F. J. Wright of Petersburg, Va., died in U. S. General Hospital, No. 19, at Oteen, N. C., February 22, and was buried near Chatham, Va. He was 37 years of age, and was living at Fruitland, Idaho, prior to entering the army. He went to France with the first contingent of the Rainbow Division, and served almost a year as surgeon in a field hospital near the front. He is survived by a little son and a large family connection.

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Fiftieth Annual Session, Richmond, October, 1919

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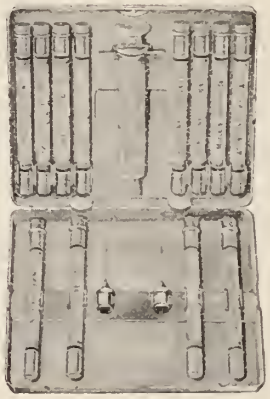

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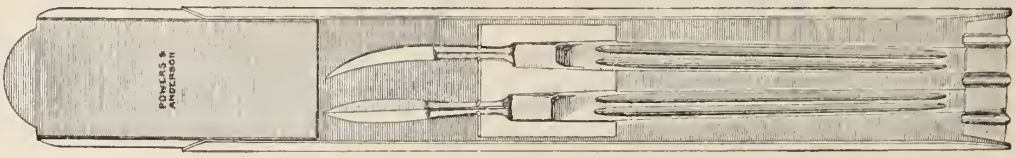

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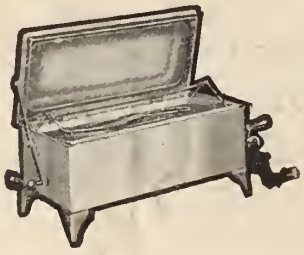

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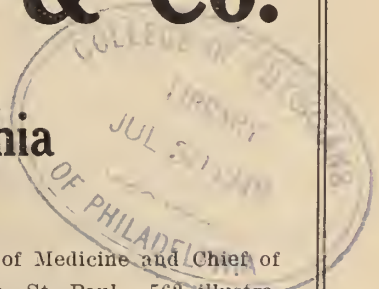

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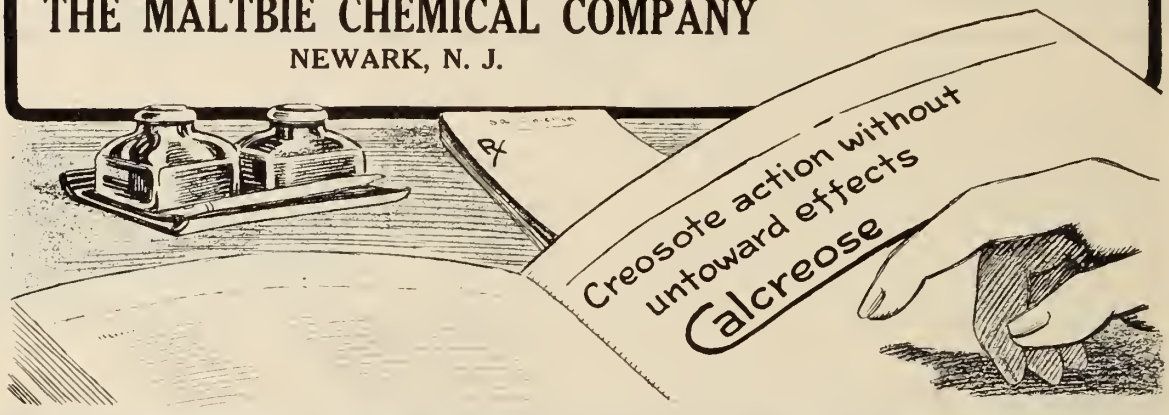

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